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ABSTRACT

To present a detailed description of what school superintendents actually do, not what they perceive themselves doing or what they ought to do, this project utilized unstructured, nonparticipant observation of six superintendents on the job. Four trained observers recorded the administrators' activities throughout every minute of the workday for one week in the fall, winter, and spring. Different observers were assigned to each day in a week's observation to allow for analysis of interaction between observers and the observed subjects. The data were coded using Mintzberg's Managerial Work Activity Classification system, which organizes all managerial activity into five categories and assigns one of twelve purposes to each activity involving interpersonal interaction. In essence, the project sought answers to five questions: Where do superintendents work? How do they spend their time? With whom do they interact? Who initiates the contacts? What are the purposes of superintendent contacts? Comparison of results with other studies; discussions of interpersonal contacts, contextual factors, and managerial work; and the introduction of the concept of "managerial ecology" form a framework for the study's findings. Appended are the Mintzberg classification system, tables, and the data coding manual. (Author/WD)

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The Nature of a School Superintendent's Work
Final Technical Report

March 1981

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THE NATURE OF A SCHOOL SUPERINTENDENT'S WORK
FINAL TECHNICAL REPORT

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SUMMARY

This project systematically studied the nature of the school superintendent's work activities. The purposes of the study were to: (1) present a detailed description of the nature of a school superintendent's job, including where he works, whom he interacts with, what he interacts about, and what work activities he performs; and (2) compare the results with those of other studies that focused on executive work activities. This study utilized unstructured, non-participant observation of six school superintendents on the job by trained observers. Superintendents were selected based on size of school district, ethnic composition of the students, and location. They were observed throughout three separate weeks: one week in the fall, one week in the winter, and one week in the spring. The outcome from the data collection was a data set of 79 days' narrative based on 560 hours of observation. These data were coded using Mintzberg's (1973) Managerial Work Activity Classification system. The results were compared with other studies and are discussed with respect to Mintzberg's (1973) propositions about managerial work. A conceptual framework, the Interpersonal Contact Style Profile, for representing a manager's interpersonal contact behavior was introduced and used to illustrate the large individual differences in behavior observed in this study. Finally, Managerial Ecology, a new orientation to the study of managerial work, is introduced.

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This project would not have been possible without the interest, candor, and willingness of the six school superintendents who participated in the study. Since the participants were promised anonymity, their identities cannot be divulged. However, we do wish to publically express our appreciation to them for their participation in the study.

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UTILIZATION

The program announcement, "Grants for Research and Organizational Processes in Education" (1978) pointed out,

> Schools and school districts are hierarchies, using conventional bureaucratic forms of organizations and familiar ideas of authority and control... Those in higher posts presumably manage the rest, holding meetings, making decisions, implementing programs...

The results of this research project can contribute both conceptually and practically to a better understanding of the situation that confronts "those in higher posts" of school systems. The 1200 typewritten pages--detailing 5,495 managerial events covering 33,616 minutes--represents one of the largest collections of observational information about school superintendents, yet the nature of the data is such that it can serve both theoretical and applied interests.

Conceptually, the analysis of this data will lead to the development of new taxonomies of managerial work and models of managerial behavior. These observationally based taxonomies and behavioral models will generate new propositions about managers at work which can be supplemented by the large existing literature based on perceptual and attitudinal data. The leader's Interpersonal Contacts Style Profile presented in this report is an example of the type of behavioral model that can be developed from the data of this study. In addition, we intend to use these data to examine the nature and pace of a school superintendent's work by day, week, and time of year and to explore the types of problems and issues that confront the superintendent. The richness of the data, its longitudinal nature, and the inclusion of such macro variables as organizational size increase the potential theoretical utilization of the study's results.

Practically, the data of this study will also contribute to the production of practical training and development applications. Case studies and training simulations, such as in-basket exercises, role plays, and critical incident analyses, can be directly generated from the real management situations detailed in the narratives.

While the collection of descriptive observational data is time consuming and expensive, it makes possible a great variety of conceptual and applied uses. Thus, it is a very worthwhile approach to the study of organizations and their leaders.

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CHAPTER 1

INTRODUCTION

The school superintendent, responsible through the Board of Education for delivery of primary and secondary education to the community, is in charge of one of the largest publicly supported organizations in a city or county government system. While school superintendents are in highly visible positions, little is known about what they actually do. Descriptions of school superintendents' general responsibilities and roles abound in the literature, but they do not answer primary questions concerning the nature of school superintendents' work. This lack of understanding about the school superintendent's job was emphasized by Larry Cuban (1976) in his book, Urban School Chiefs Under Fire: "While we know to the penny what salaries administrators received, what degrees they earned, and where they were born, we know very little about what they, as executives, actually do each day" (p. xii).

Before the question "What do superintendents do?" is addressed, it is important to ask if the question itself has utility--i.e., will a description of a school superintendent's job have some value and impact, or would such a report become just another dust collector on library shelves? After all, there is already a relatively large body of information about school superintendents, ranging from the historical development of the position to the superintendent's role in the community (e.g., Campbell, Cunningham, Nystrand, & Usdan, 1975; Griffiths, 1966). Although much of this literature emphasizes what school administrators should do or what is done as perceived by the person doing it, it contributes little to our understanding about what they actually do. Similarly, the management literature in general has surprisingly little to say about the nature of top administrators' work. After an in-depth review of current literature, we have come to the same conclusion that Campbell, Dunnette, Lawler, and Weick (1970) formulated over a decade ago in their now classic survey of the management literature: the nature of managerial tasks and what managers do on the job is still not very well understood.

Filling this gap in knowledge about management, especially knowledge about the school superintendency, is also important for pragamatic reasons. Today, the school superintendent is faced with shrinking resources and increased demands that require even more effective management of the school system than in the past. If the superintendent's effectiveness in running the organization is to be maintained and enhanced, a better understanding of the nature of the job and the demands upon it are required. Only after doing this can research begin to assist the practicing superintendent and to better prepare students who aspire to enter school administration. Thus, there is considerable practical as well as academic value in pursuing the answer to the question, "What is the nature of a school superintendent's work?"

Purpose

Our project was undertaken to systematically study the nature of top management work and to identify factors that impact on top executives' work activities and behavior. This study focused on six superintendents as they performed their roles as chief executives in public school systems. The purpose of this report is to: (1) present a detailed description of the nature of the school superintendent's job, including what work activities he performs, where he works, whom he interacts with, how often he interacts with them, and what he interacts about; (2) compare the results with those of other studies that focused on the school superintendent's work activities; (3) introduce a conceptual framework for understanding a school superintendent's interpersonal contact behavior; and (4) suggest important areas for future research.

Method

Of the numerous methods available, an observational field study was selected to investigate the work behavior of school superintendents. This method was chosen for three major reasons. First, not enough was known about the nature of managerial work, particularly the school superintendent's work, to conduct a study in a controlled environment. Second, the objective was to understand how the school superintendent behaved on the job, not in an artificial setting. Therefore, an *in situ* approach was called for, focusing on behaviors rather than perceptions of behaviors. Finally, other studies in management (see McCall, Morrison, & Hannan, 1978) have shown that managers incorrectly estimate how they spend their time. Consequently, since school superintendents could not be relied on to accurately record their own daily activities, an observer was necessary.

Our study utilized unstructured nonparticipant observation of school superintendents on the job by trained observers to gain a representative description of each individual's activities. As each school superintendent was observed, a narrative description of events was written which detailed the patterns of activity throughout every minute of the workday. All activities and occurrences, such as contact with staff, parents, and others who had occasion to interact with the school superintendent, were recorded. The nature of incoming mail and outgoing correspondence was also monitored where possible. The resultant data set is a time-series narrative description of how the school superintendent acted on the job and what took place within the his immediate environment.

Report Overview

Chapter 2 surveys the types and characteristics of observational studies and summarizes the findings of previous observational studies of managerial work. Chapter 3 provides a detailed description of the sample and the method used in collecting data about the nature of school superintendents' work. Chapter 4 presents the composite findings of the study, and Chapter 5 compares these results with those of previous studies. Chapter 6 continues with the results of the study by examining the similarities and differences between the individual school superintendents and extends the individual analysis by presenting the concept of a superintendent's contact profile. Chapter 7 presents results on the impact of two contextual variables, the size of the school and the time of the year. Finally, Chapter 8 provides discussion and conclusions plus a look to future research directions.

CHAPTER 2

TYPES AND CHARACTERISTICS OF OBSERVATIONAL STUDIES

Most recent work in management and leadership research addresses "why" questions, seeking to explain and/or predict manager, subordinate, or organization behavior. In comparison with other types of managerial research, relatively few descriptive studies focusing on "what" and "how" questions have been undertaken. We believe the emphasis on explanations and predictions may be premature and concur with McCall et al. (1978) that "many of the problems with existing approaches to leadership and management can be traced to a superficial understanding of what and how" (p. 3). Campbell (1977), Luthans (1979), and Sayles (1979) among others have called for more descriptive research and more chronicling of what managers actually do. There is an essential need to inititate programs of systematic descriptive research to discover the elements, dimensions, and properties of managerial work that will serve as solid foundations for subsequent theory and model building.

An Alternative to Behavioral Tesserae

The more frequently used data collection techniques in management studies of questionnaire surveys, interviews, and experiments are particularly suited for investigations involving "why" questions but in most cases are not appropriate for descriptive behavioral research. These methods utilize attitude and perception measures, constructs, and concepts that are imposed on the subject by the investigator. They also involve explicit intervention into the subject's environment or control of the subject in some manner. Barker (1963) differentiated between these types of studies involving behavioral concepts that are a priori designed by the investigator (his term is "behavioral tesserae") and studies that describe the "stream of behavior" discovered by the investigator. This distinction is important to the issues discussed in this report and deserves elaboration.

The methodologies of behavioral tesserae studies require selectivity, control, and careful measurement of specific variables. By explicit design their effect is to reduce complexity by destroying natural conditions of the subject's job environment and, also, to invoke subject-investigator interactions by requesting the subject to undertake prescribed actions--e.g., perform a task or complete a questionnaire (Barker, 1963). On the other hand, researchers seeking to describe what a subject does will employ much "looser," unstructured techniques so as not to interfere with or intrude into the natural stream of behavior.

This difference in approach is analogous to the difference between a still camera in the hands of a professional photographer and a movie camera that is turned on and left unattended. The still camera allows the user to capture a specific scene at a specific split second of time as the photographer composes it. With the addition of special filters, lenses, and film, only select characteristics from reality are recorded on the resultant photographs--all else is excluded. In this case, then, the photographic record is a representation that serves the special purpose of the photographer. Similarly, questionnaires, interviews, and experiments result in special representations of behavior in snapshot segments of time.

Conversely, the unattended movie camera picks up everything within its field. No control is exerted, and the record by intent is nonselective. Replay of the movie film provides a glimpse at interactions and dynamics (i.e., the stream of behavior) not possible with still photography and allows the filmed events to be in effect studied over and over again from different perspectives. However, the scene captured by the movie camera is at times limited in sharpness and detail: some objects are blurred; some are confounded with others; and some are even missed entirely. Analogously, unstructured observation offers an imperfect yet feasible method for studying the stream of behavior with minimal intrusion into the natural setting.

As with camera selection, choice of research methodology should match need and purpose as opposed to popularity, familiarity, or acceptability. The issue is not which technique--questionnaire, interview, experiment, or observation--is universally best, but rather which is most appropriate to answer a specific set of research questions. Recently, behavioral tesserae type studies have made brief forays into the frontier of knowledge about management and leadership but have been unable to move the border forward. We propose that significant advances will not result from continued exclusive focus on behavioral tesserae. At the current stage of development of our discipline, progress will be made by comprehensive, intense, unstructured observational studies of managers and leaders on the job.

At this point it is important to make a distinction between observation as a data collection technique and the setting in which data collection takes place (Sackett, 1978). In many recent observational studies in management and administration, it is implied that observational studies go hand in hand with research undertaken in the natural setting; this is not necessarily the case. There are two extreme conditions under which research is undertaken: on one extreme is the laboratory experiment in which data are collected in a highly controlled, usually artificial setting; on the other extreme is the field study in which data are collected about phenomena as they occur in their natural setting. Observation as a data collection technique can be used in either of these extreme conditions or in any type of study that falls in between.

Related Work

A number of areas in science have contributed to or paralleled development of stream of managerial behavior research. Systems theory work conceptualized by Ashby (1956) and first implemented by Howland (1961, 1963) has made the most direct contribution to the development of our project's approach to investigate the nature of managerial work. Ashby (1956) proposed to study a system as a black box by "the collection of a long protocol, drawn out in time, showing the sequence of input and output states" (p. 88). Howland applied this technique in the health setting and undertook an extensive data collection effort using trained registered nurses to observe and record 24 hours a day the experience from admittance to discharge of a homogenous group of surgery patients (Howland, Pierce, & Gardner, 1970). Bussom (1973) extended Howland's direct observation methodology to the managerial level and investigated the behaviors of head nurses as they performed their role as nursing unit managers.

The field of psychology has also seen an interest develop in the empirical study of human behavior in natural settings with unobtrusive techniques (e.g., Barker, 1963, 1968; Willems, & Raush 1969). This specialization, called ecological psychology, is more fully developed than its management counterpart, having an identifiable philosophy, vocabulary, and methodology that are unique to the field.

There has been a similar development in ethology, the study of animal behavior in relation to habitat. Although there is much in common between ecological psychologists and ethologists, Schoggen (1978) noted several distinctions between the two. Most important for our purposes is that ethologists are primarily interested in molecular behavior--for example, facial expressions, gestures, and locomotion--as opposed to ecologists who emphasize molar behavior--for example, mating patterns, imprinting, and nesting habits. Also, ethology has its roots in evolution theory, whereas ecological psychology looks more at the short-term interaction between the organism and its environment, with little or no interest in long term adaptation.

Finally, anthropology has contributed ethnographic techniques, which analyze the historical development of and similarities among cultures. Ethnologists believe it is important to study human behavior from a naturalistic perspective but differ with most social scientists' insistence on objectivity by asserting that "the social scientists cannot understand human behavior without understanding the framework within which the subjects interpret their thoughts, feelings, and actions" (Wilson, 1977, p. 249). This interest in the subjective may explain why there is a paucity of ethnographic studies of managers. We are aware of only two relevant reports: one by Wolcott (1973), who intensively studied the work life of a school principal, and another by Feilders (1979), who focused on a school superintendent.

Previous Observational Studies

In developing our research approach, we have relied heavily on previous managerial work studies undertaken over the years. These studies generally address the question: what do managers do? There have been numerous attempts to answer this question in a variety of different types of organizations, at different levels of management, and with different research methods. From our point of view, the most relevant works are observational studies of managers on the job. McCall et al. (1978) reported 13 managerial studies that relied on observation at least in part, beginning with the founding work of Carlson (1951), through Mintzberg (1973), and ending with Stewart (1976). We found additional studies by Patterson (1975), Feilders (1979), Pitner (1978), Kurke and Aldrich (1979), Wolcott (1973), and Snyder and Glueck (1980). McCall et al. (1978) summarized the results from their review of the managerial work literature into the following ten statements:

1. Managers work long hours.
2. Managers are busy.
3. A manager's work is fragmented: episodes are brief.
4. The manager's job is varied.
5. Managers are "homebodies."
6. The manager's work is primarily oral.
7. Managers use a lot of contacts.
8. Managers are not reflective planners.
9. Information is the basic ingredient of the manager's work.
10. Managers do not know how they spend their time.

Although some of these statements have recently been questioned (Gingras, 1979; Synder & Glueck, 1980), they at least reflect the magnitude of our knowledge about managerial work. In almost thirty years, progress--to say the least--has not been rapid. Why have we advanced so slowly? Why haven't numerous managerial behavior taxonomies been proposed and tested? Why aren't cross classifications, time-series, pattern and profile mappings, and other dynamic analyses being done? In short, what's the holdup? It is interesting to note that Campbell, Dunnette, Lawler, and Weick (1970) asked similar questions over a decade ago.

First, with the possible exception of Stewart's (1976) and Hemphill's (1960) work, there has been little attention to research design and method in the managerial work field. Methodological rigor that for some time has been demanded in other types of organizational and managerial research is obviously lacking in most managerial work studies. For example, after many years of development, accepted standards now exist for questionnaire research in terms of instrument construction and administration (e.g., Erdos, 1970; Tull & Albaum, 1973). However, few observational studies reported in the current literature specify how the observations were recorded, who did the recording, and what training was received by the observer. We believe that unless attention is given to these important aspects of observation, the experience of questionnaire research, where ill-conceived questionnaires were used with little attention given proper instrument construction, will be repeated. This lack of rigor, inattention to detail, and general looseness makes it very difficult for successors to build on previous work. Additionally, because of "soft" methodologies, the results from many of the studies, including the most prominent, are questionable or at least open to severe criticism.

Second, most observational managerial work studies with which we are familiar utilized structured observation, at least to some degree. Either a predetermined categorization scheme was used by the observer to classify events or activities on the spot, or the scheme evolved as observation occurred. While structured observation is relatively easy to carry out, it allows recording of very little information about the phenomenon being studied; much is lost.

Third, unstructured observation research in the natural setting is very expensive, time consuming, frustrating and exceedingly difficult, requiring a team of scientists to do well. This methodology is more qualitative and "dirtier" than the neat and clean designs with which most of us are more comfortable. Also, as Dunnette (1966) suggested in his now classic article on "fads, fashions, and folderol," researchers tend to become committed to one specific research method. If this is true, and we believe it is, debates about which method is best are sure to follow. For example, previous Southern Illinois Leadership Symposia (Hunt & Larson, 1977, 1979) witnessed this in laboratory versus field study debates and in questionnaire versus observation discussions. Such disagreements tend to solidify proponents of each method and can lead to rejection of valuable contributions to the field. Most researchers have neither the resources nor the inclination to break new ground and carry out unstructured observation projects. Thus, by situation and choice, they tend to carry out behavioral tesserae work without first undertaking the important step of studying the stream of behavior.

If significant advances in our understanding about management and leadership processes are to be made, a series of systematic, replicable, comprehensive studies of managerial work _in situ_ must be undertaken. The chapters that follow describe one such effort.

CHAPTER 3

DESCRIPTION OF METHOD AND SAMPLE

Research Design

Our project utilized unstructured nonparticipant direct observation of school superintendents on the job by trained observers over a long enough period of time to reduce observer effects and to gain a representative description of each individual's activities and behaviors. As each superintendent was observed, a narrative description of events was produced. This narrative is a detailed record of the activities that occurred throughout every minute of the workday. These included interactions with staff, teachers, students, and others who had occasion to interface with the superintendent as he performed his job. The nature of incoming mail and outgoing correspondence was also monitored where possible. The resultant data set is a time-series narrative description of how the school superintendent behaved on the job and what took place within his immediate environment. As an illustration of the type of data that were collected, a page from a hypothetical superintendent's observations is shown in Exhibit 1.

The format of the record in Exhibit 1 is similar to one first proposed by Ashby (1956) and later implemented by Howland et al. (1970) and Bussom (1973), who used a long protocol, which showed in sequence the time events occurred and the nature of those events. A similar format was developed by ecological psychologists, who termed it a "specimen record"; Schoggen (1978) defined it more elaborately as "a narrative description of the behavior of one person, usually a child, in a natural, uncontrived situation as seen by skilled observers over a substantial period of time" (p. 43). In his much referenced managerial work study, Mintzberg (1973) utilized a slightly different format for his "chronology record," which represented a subject's behavior over time in terms of predesignated activity categories. Since our data collection process sought to minimize abstraction and attempted to record as much about the actual situation as possible, no explicit classification or coding was performed during observation. We, therefore, have labeled our data collection format "narrative record" to emphasize that all work related events and activities were recorded completely in an unstructured written form, to the best of the observer's ability, as they happened.

Six school superintendents from the Midwest participated in the study. Each was observed throughout three separate weeks: one week in fall, 1978; one week in winter, 1979; and one week in spring, 1979. The superintendents were observed from the time they arrived at work until they left work. Business lunches were observed; social lunches were not. Evening business meetings were also observed. Observers were infrequently excluded from meetings where their presence, in the superintendent's opinion, would interfere with the interpersonal interaction process. On occasions when the observer was excluded, the duration of, participants in, and the purpose of the meeting were recorded. The usual topics of confidential meetings included employee personal problems, employee disciplinary cases, school politics, and the superintendent's personal business.

Subjects

While observational studies are useful in getting at both the content and characteristics of a situation, they are costly. With unlimited amounts of time, money, and skilled observers, a large number of subjects could be observed. Realistically, resources are limited, and the problem of representativeness and generalization from a small group must be confronted. In his discussion of the ultimate small sample case (i.e., N=1), Bouchard (1976) suggested well chosen cases and the "judicious choice of contrasts is still our most powerful methodological strategy" (page 367). Following this suggestion, a form of quota sampling was adopted to select participants. Public school administration experts recommended by the National Institute of Education, the granter of this project, identified three major factors that should be considered in selecting superintendents for observation: organization size (small = 0-5,000 students; medium = 5,001-10,000 students; and large = over 10,000 students); location (rural, suburban, and urban); and ethnic composition (percent of white and non-white enrollment).

The six observation sites in our study consisted of four small districts, one medium district, and one large district. Since there are more small school districts than medium or large, small district superintendents were more heavily represented in the sample. Four of our sites were rural, one suburban, and one urban. Ethnic composition of the districts ranged from two with 100% white pupil populations to one district with a 97% non-white student body. These sample characteristic are presented in Exhibit 2.

The mean age of the superintendents participating in our study was 53 years, with a range of 43 to 63. These men had spent, on the average, 30 years in primary and secondary education and 12.5 years as superintendent. One participant held a doctorate, and five held masters degrees. As a frame of reference, an AASA publication on the school superintendent (Knezevich, 1971) reported that the typical superintendent is 48 years old, has spent 25 years in primary and secondary education, and has been a superintendent for about 11 years. Our average subject was a little older, a bit more experienced, and had a slightly longer tenure in the position than the "typical" superintendent.

Observation Process

Four individuals acted as observers for the study: the three authors of this report and one Ph.D. candidate. Different observers were assigned to each day in a week's observation to allow for analyses of observer-observed interaction patterns. The longhand narrative descriptions prepared during the actual observation process were immediately edited for errors and deletions by the observer and then submitted to a project secretary for typing. The typed versions of the narrative records were finally proofread by the observer to insure accuracy.

Observer Effects

Observational studies where subjects are aware of the observer's presence must be vitally concerned with the effect the observer has on the observed. It has been shown in a number of other studies, the Hawthorne Studies (Roethlisberger and Dickson, 1939) being the most famous, that the very process of observation may affect behavior and consequently contaminate the data. On the other hand, it is also well documented that the observer effect is not as significant practically as it is theoretically. Bouchard (1976) stated that resistance and hostility to the observer are usually not serious problems. While the observer may initially upset the subject's behavior patterns, this effect can be dissipated quickly as the subject realizes the observer offers no threat to the system, and/or as the subject becomes involved in absorbing activity (Emory, 1980). In an empirical study of observer effects in observation of nursing unit staffs, Rutherford and Spitzer (1968) found that those being observed acclimated very quickly to the observer's presence, and the effect on the data was practically nil. It can be concluded from Weick's (1968) review of the literature on observer effects that, with some care, the observer's impact on the system can be reduced to a negligible level. Kerlinger (1973) supported this contention, stating "if the observer takes care to be unobtrusive and not to give the people observed the feeling that judgments are being made, then the obsever as an influential stimulus is mostly nullified" (p. 539).

Observer effects can be reduced and controlled through observer selection, observer training, and site preparation. Individuals selected as observers must be able to look and act the part of a passive yet interested and objective party. In our study it was found early on that it was necessary for either one of the principal investigators or an advanced, mature-appearing graduate student to do the observing: in the initial interviews, superintendents expressed concern about being observed by inexperienced people. Thus, only mature-appearing, "high status" individuals with direct involvement in the project were used as observers.

Nonparticipant direct observation also requires proper preparation and training of observers. In the school superintendent study, observers had to be prepared to carry out their unobtrusive role eight to ten hours a day, being fully aware of but remaining apart from what was occurring around them. This is a difficult task that required careful training and a conscious and constant effort on the part of the observer not to become involved or unintentionally drawn into a participant role.

Observer training is so important to the quality of observational data that Medley and Norton (cited in Frick & Semmel, 1978) concluded that observer agreement studies do not have to be performed in the field--rather, observer competency need only be established upon completion of training. While we do not intend to go so far as to reject a posteriori observer reliability analysis, we do agree that sufficient observer training is the most important factor in obtaining high quality observational data. Therefore, all observers in the school superintendent study successfully completed a training program that included a complete orientation to the study's methods and procedures and practice with behavioral observations of a filmed case illustrating a typical manager's day.

Advanced preparation of the observed and others who may expect to interact with the observed during the observation period further reduces the chance of significant observer effects. Members of the project team visited each school superintendent prior to data collection and described the research project and the nonparticipant observational method to him in detail. Also, an interview was conducted at that time to gather background data on both the subject and the school organization. This meeting allowed the subject to become more familiar with the observers and the observers to become more familiar with the subject, others in the organization, and the physical facilities in which observations would be carried out.

In summary, although the observer effect cannot be entirely removed, impact on the data can be minimized with proper observer selection, observer training, site preparation, and data monitoring procedures. Of course, social science data--whether acquired by questionnaire, interview, experiment, or observation--can never be entirely free of measurement effects. However, care has been taken in this study to face the observer effect problem in advance and to take precautions to insure that it is reduced to the best of our ability. Indeed, our subjects reported that they became accustomed to the observer within the first couple of days of observation and later most of the time even forgot that the observer was present.

Observer Reliability

Observer reliability has a major impact on data integrity in observational studies; of course, both interobserver and intraobserver reliability is important to attain. Observer reliability can be achieved through preventive measures, such as observer training, and through control procedures that monitor the data and feedback evaluations of the observer's work. Training itself significantly contributes to observer reliabilities. As noted earlier, observer trainees practiced their techniques on filmed episodes. After these trials, evaluation and review sessions were held with the observer trainees to identify and resolve differences and establish similarity of expression and degree of detail.

No matter how well they perform in training, observers still make errors and may develop unwanted habits in preparing their narrative descriptions. Thus, as the narratives were being put into their final form, they were monitored in two ways to identify discrepancies and incomplete or unclear sections that could affect reliability. First, after the data were typed, one of the principal investigators read each narrative description and met with the observer to clear up confusing passages and suggest improvements in technique. Second, data coders, in transforming the narrative descriptions to a numerical format, identified data problems and brought them to the observer's attention. These two feedback mechanisms not only helped to correct errors in data already acquired but also assisted observers to maintain their proper data gathering technique. In a similar observation study (Bussom et al., 1981) we found interobserver agreement to be in the 90% range.

Data Analysis

The data set generated from our observations contains a significant volume of unstructured descriptions, almost as rich and complex as the reality itself. A major methodological obstacle for this project was development of data handling and analysis techniques that allowed efficient and effective manipulation while maintaining data integrity. Although not specifically addressed in the managerial work literature, we expect that this problem is another of the major reasons that progress in the field has not been as rapid as it could be.

Two approaches to this methodological problem can be identified: the investigators may choose either to develop a general format and technique designed to satisfy all anticipated research questions and analysis needs, or they can tailor analysis procedures to meet specific purposes as required. Experience with this and other similar projects suggests that, while ideally appealing, the general approach is practically impossible because of numerous serious implementation problems. Consequently, for pragmatic reasons, we have elected to plod along in the data, addressing specific issues as we go, rather than developing a generalizable, unified approach.

Most recent managerial work studies (Feilders, 1979; Kurke & Aldrich, 1979; Pitner, 1978; and Synder & Glueck, 1980) have utilized some form of Mintzberg's (1973) managerial work activity classification system. Although limited in a number of ways, the Mintzberg system allows comparison of our results with those of previous studies and provides an initial structure for preliminary descriptions of school superintendent behavior. Therefore, we too chose to begin analysis of the superintendent data through the Mintzberg framework and then later to explore and develop other approaches.

Mintzberg (1973) classified all managerial activity into one of five categories: desk work, telephone calls, scheduled meetings, unscheduled meetings, and tours. Mintzberg also assigned one of twelve purposes to each activity involving interpersonal interaction (contacts). Detailed definitions of Mintzberg's activity and purpose categories are provided in Exhibit 3.

Data Coding

Application of the Mintzberg classification system to our school superintendent data required detailed design of a data reduction (coding) process. The coding process involved two steps. First, the narrative record was coded by using a modified version of Mintzberg's (1973) chronology and contact records. An example of this Chronological/Contact Record for Exhibit 1 is shown in Exhibit 4. Second, these data were then coded into a numerical format to facilitate computer manipulation and analysis.

Implementation of the Mintzberg classification system was more difficult than it initially appeared. Our first attempt at coding the data exposed numerous operational definition problems, many of which Mintzberg (1973) had neither identified nor addressed. These difficulties were serious enough for us to "junk" a completely coded data set and recode the original narrative records using a revised system. As a result, a Data Coding Manual (Appendix A) was developed through four revisions to serve as the "official" guide for resolving coding problems. This manual, listing operational definitions and explicit coding rules, greatly facilitated coder reliability.

In the final coding version, each occurrence of an activity by the subject--including contacts with the observer, personal time, and other nonmanagerial activities--defined an event which was listed in the chronology/contact record. The following information was listed for each event: starting time, duration, activity category, and location. If the managerial activity involved interpersonal contacts, then the purpose of the contact, number of participants and their titles, and the initiator were also recorded. The categories for the event characteristics are listed in Exhibit 5.

Practical Problems

Reports of research studies rarely focus on practical problems of data collection, data reduction and analysis. In the brief discussion that follows a few of the more significant problems faced by the observers on the job are presented.

1. An agreement was made with each subject to recognize that occasionally the observer would be excluded from confidential and private meetings, either at the request of the subject or participants in the meeting. The usual topics of confidential meetings where the observer was excluded involved employee or student personal problems, employee disciplinary cases, board politics, and the school superintendents' personal business. It is interesting to note that the amount of observer exclusion ranged from none to quite frequent across subjects: some subjects would allow the observer to be present for all events, while others were concerned with conducting more of their business in private. If an observer was excluded from a meeting, the school superintendent would later inform the observer about the general purpose of the meeting and who attended, thus allowing it to be recorded as part of the data.
2. Many problems, decisions, and tasks faced by school superintendents carry over day to day and week to week. The individual observing a school superintendent the first day of an observation period must "go in cold" and learn about these continuing topics through the context in which they are discussed or by directly inquiring about them. To reduce the necessity of intervention by the second day's observer, a discussion was held between outgoing and incoming project staff to familiarize the "new" observer with the cast of characters and topics that were likely to be

carried over into the next day. Consequently, the first day was somewhat more difficult to observe than the second day.

3. In many cases it was impossible to determine the nature of a telephone call or to identify the caller by listening to the superintendent's portion of the conversation. This problem was resolved by most subjects volunteering a short summary of the call immediately after getting off the phone. However, a few subjects required prompting about almost every call. These individuals did not seem to mind inquiries about the calls, although sometimes their answers were abstruse.
4. Many of the school superintendents studied occasionally worked at home in the evening or received work related telephone calls at night. Although these activites could not be observed, subjects usually reported these incidents to the observer the next morning. These data were excluded from the formal record but have been recorded and may be subsequently studied.

These practical observational problems demonstrate the somewhat uncontrollable nature of field studies, especially nonparticipant direct observational studies. For example, the degree to which the observer was excluded and the amount of self reporting on nonobservable activities were usually under the direct discretion of the executive. Although exclusions and other practical problems assocated with direct observation account for only a small portion of the subject's work time, they are inherent characteristics of this research method and must be tolerated if this methodology is adopted.

Summary

The outcome from the data collection effort is a usable data set of 79 days of narrative record, based on 560 hours of observation, which is contained on approximately 1,200 double-spaced typewritten pages. Exhibit 6 summarizes the data collection and data coding procedures used in the project. This Exhibit illustrates the care that was taken to insure that observations were properly recorded and that as many errors as possible were corrected. The process began with recording of the narrative description of the school superintendent on the job by an observer. The observer, usually each evening, edited the written notes and, in most cases, dictated them on a microcassette recorder. After a week's observations were completed, the project secretary transcribed the dictation into the typewritten version. The typed narrative record was reviewed first by the observer and then by one of the project's principal investigators who subsequently met with the observer to discuss the notes and clarify ambiguities. This corrected version of the narrative record was microfiched for security purposes. The revised narrative records were processed in the two-step coding procedure described earlier and eventually key punched for computer analysis.

CHAPTER 4

COMPOSITE RESULTS[1]

A major purpose of this study was to systematically study the nature of a school superintendent's work activity and to provide a detailed description of the nature of a school superintendent's job. The outcome from the data collection effort is a usable data set of 79 days of narrative record, based on 560 hours of observation, which is contained on approximately 1,200 double-spaced typewritten pages. The two-step coding process provided a numerical data set with 5,495 events totaling 33,616 minutes. This chapter presents composite results and focuses on the job in general, by reporting on where the superintendent worked, how he spent his time, whom he interacted with, who initiated the contact, the number of people involved, and the purpose of these interactions. These composite results are then compared in Chapter 5 with those from previous observational studies on the nature of managerial work.

Where do Superintendents Work?

As Table 1 indicates, the superintendents in our study, as a group, spent two-thirds of their time in their office. The next most used location was "other areas in the school system," such as the cafeteria, learning center, industrial arts shop, or similar places on a school campus. They spent about 9% of their time away from the school facilities. Table 1 also shows the average duration of activities that took place in the various locations. While the school superintendents spent almost all of their time on the grounds, they averaged less than ten minutes per activity there; in contrast, activities away from campus took only 8.8% of the superintendents' time, but averaged almost 40 minutes.

How do Superintendents Spend Their Time?

To answer this question, the observed activities were classified into seven categories. The first five of these categories were developed and defined by Mintzberg (1973) in his study of chief executives. Mintzberg's (1973) definitions for these categories are provided in Exhibit 3. We added the last two categories to better account for all of the superintendent's time. "Travel" includes the time superintendents spent traveling to different locations in their school system or to meetings held off campus during the workday. This category does not count time spent traveling between the superintendent's home and his office. The "Other" category includes personal time and time spent interacting with the observer, activities that are not part of the superintendent's work.

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[1] Interpretations of results are based strictly on visual inspection and not on statistical tests. Due to small Ns in some cells, care must be taken in interpreting the percentages.

Table 2 presents the percent of time the superintendents spent on each of the seven categories, the mean duration of the events in each category, and the relative frequency of events in each category. For example, our superintendents spent 10.7% of their time on the telephone, their phone calls averaged 3.2 minutes, and phone calls made up 20.6% of their total number of activities. The superintendents in our study spent 30.9% of their time on desk work and 29.7% of their time in unscheduled meetings; the remaining 39.6% of their time was spread over the rest of the five categories.

It is interesting to look at the amount of time that superintendents spent in interpersonal interaction with others. The percent of time absorbed by interpersonal contact--telephone calls, scheduled meetings, and unscheduled meetings--totals about 53% for the group, and this accounted for over 55% of the total number of their activities. Since contacts consumed more than one-half of their time and activities, obvious and important questions arise concerning their nature.

Whom do Superintendents Interact With?

Table 3 details the frequency of contacts superintendents had with others, the time they spent with these people, and the mean duration of these interactions. As might be expected, the superintendents spent the largest percentage of their time (22.0%) with their immediate subordinates, such as business managers and assistant superintendents. However, they totaled almost an equal proportion of time (21.4%) with individuals who were not part of the school system (i.e., "Outsiders"), such as citizens (other than parents) and members of the business community. Furthermore, principals got about the same amount of the superintendent's time (12.9%) as did custodians, bus drivers, and kitchen workers (11.3%). In fact, the superintendents had a higher frequency of contact with the custodial group than they did with building principals (17.8% versus 14.5%).

Superintendents spent 13.0% of their time in contact with their peers. It was not uncommon for superintendents to call nearby superintendents to discuss such things as school closings and state aid formulas. In addition, most of the superintendents in our study attended frequent area meetings with other superintendents. Surprisingly, there was a relatively small amount of contact between superintendents and members of their own school boards--only 2.1% of contacts and 3.9% of time.

Who Initiates These Contacts?

The mean percent frequency is the most relevant statistic to describe who initiated contacts: the superintendent, others involved in the contact, the clock (i.e., a regularly scheduled, reoccurring contact), and mutual. The other party tended to initiate the majority of interpersonal contacts (50.3%). The superintendent initiated 36.8% of the contacts; self or other person initiated contacts tended to be brief (a mean duration of 5.3 minutes). Mutually initiated contacts (12.6%) tended to have a longer mean duration (9 minutes).

The majority (85.6%) of superintendents' contacts were paired (one-to-one) as opposed to group, but they only accounted for 37% of the contact time. Thus paired contacts were frequent but brief (4.2 minutes) while group contacts were infrequent but long (16 minutes).

What are the Purposes of Superintendents' Contacts?

In order to describe in a systematic way the purposes of the more than 3,000 contacts that occurred during our observations, the Mintzberg (1973) framework was again utilized. Exhibit 3 lists Mintzberg's original 12 purposes of interaction categories and their respective definitions. In adopting this framework to our needs, one category ("Observational Tours") that was found to be difficult to operationalize was deleted, and another ("Other/unknown") was added to account for interaction events that were not managerially related or ascertainable.

Table 4 presents the percent of contact time superintendents spent on each of the purpose categories, the mean duration of their interactions for every specific purpose category, and the percent of the contact frequency for each category. These data give an indication about the patterns of contacts for the school superintendents as a group. Nonmanagerial work, status requests, and negotiation sessions occurred infrequently, but when they did, they were of long duration. In contrast, action requests, manager requests, receiving information, and giving information were relatively frequent but brief occurrences. Also, the superintendents spent a considerable amount of their interaction time in long strategy sessions. Review was the predominant purpose in terms of frequency and time spent. Very little of the school superintendents' interaction activity was absorbed in ceremony and scheduling.

Combined categories related to information handling as defined by Mintzberg (1973)--receiving information, giving information, and review--accounted for about 64% of the superintendents' contact activities and over 65% of their contact time. Approximately 24% of the superintendents' contact activities and 13% of their contact time was spent taking requests from others and making their own requests. Decision making categories--i.e., strategy and negotiation--comprised just a little over 5% of the superintendents' contact activities and took only 10% of his contact time.

CHAPTER 5

COMPARISIONS WITH OTHER STUDIES

Other observational and ethnomethodological projects focusing on managers' activities have also been undertaken in the past few years. Three of these studies involved observation of school superintendents, and our results are directly compared to them in Table 5 to identify composite similarities and differences.

One of Mintzberg's (1973) five chief executives was a school superintendent of a large (18,000 students) suburban school district who was observed for one week in the spring of the year. A second study was conducted by Pitner (1978), who observed three school superintendents in "suburbs contiguous to a large midwestern city" (p. 63) for one week each. The district size and time of the year of the observatons were not noted. Finally, Kurke and Aldrich (1979), as part of a large managerial study, observed a school superintendent for one week in 1978. The size of the district was not disclosed, but they did report that the district had a tax revenue of 15 million dollars, which would indicate a medium sized district.

None of these studies reported on the location of the superintendent's activities, but all used Mintzberg's (1973) classification schemes for activities and purposes of interactions. Exact comparisions between studies are not always possible, due to modifications each researcher made in the basic classification process. For example, we added "Personal Time," "Interaction with Observer," and "Travel" to the Mintzberg activity classifications. Also, Mintzberg (1973) and Kurke and Aldrich (1979) classified all subordinates together, while our study and Pitner's (1978) subdivided the subordinate category. Finally, there were probably differences in the rules each researcher used for classifying the narrative record--e.g., Mintzberg did not count contacts with the superintendent's personal secretary, but Pitner did. Although there are a number of discrepancies among these studies, they are similar enough to allow some basic comparisions.

The top part of Table 5 lists the percent of time, mean duration, and percent of activities for the basic activity categories across the four studies. There is some degree of agreement about the relative proportion of the superintendent's job devoted to desk work and telephone calls. However, most noticable in the Table is the amount of variability among studies, especially for scheduled and unscheduled meetings, where percent of time and percent of activities range quite widely.

There are several explanations for this variance. First of all, the superintendents studied may have differed in the degree to which they preferred formal meetings or in the degree to which meetings were written on their appointment calendars. The latter explanation is related to possible methodological differences among studies. For example, our decision rule for classifying a meeting as a scheduled one required that it be on the superintendent's calendar at the beginning of the workday. We did, however, observe "regular" visits by subordinates to the superintendent that did not appear on the superintendent's calendar and were accordingly classified as unscheduled meetings. A second possible explanation of the variance among studies is related to the period of observation. None of the other investigations were longitudinal in nature, incorporating multiple observation periods into the data collection design. This deficiency raises a question regarding representativeness of their data. A third potential factor for explaining the differences is the size of the district studied. Mintzberg (1973) suggested that top managers of larger organizations tend to have more formal (scheduled) meetings. Analysis of the data indicates that there may be a relationship between organization size and superintendents' activities. Indeed, numerous differences in superintendents' managerial work patterns became evident when observation sites in our sample were classified and analyzed according to school district size (see Chapter 7).

A comparison across all four studies of whom the superintendents had contact with is difficult, since both Mintzberg (1973) and Kurke and Aldrich (1979) counted all organization members as subordinates. Their other classifications included directors, trade organizations, clients, and suppliers. Unfortunately, only two of these are easily translated to a school setting: directors are equivalent to the board of education, and subordinates include all employees of the school district. The bottom part of Table 6 shows that while the majority of a school superintendent's time was spent with subordinates and others, there is some variability among the studies in terms of the contacts and time spent with members of the board of education (i.e., directors). This could be related to the time period of the observation--e.g., if the superintendent was observed for only the week when the board of education met, the time spent statistic would be inflated. It could also be affected by the experience of the superintendent, his freedom to operate without frequent contacts with board members, or the needs of board members to contact the superintendent.

Pitner (1978) provided an expanded number of subordinate categories similar to the ones we developed for Table 3. She reported the percentage of contacts with immediate subordinates to be 35%; principals 38%; teachers 20%; and custodians, kitchen workers, etc. 2%. As reported in Table 3, the superintendents in our study had relatively fewer contacts with teachers and considerably more with custodians, kitchen workers, etc.

Finally, Table 6 provides a comparison of the purpose of contacts across the four studies. While similarities are apparent--particularly with regard to status requests, manager requests, receiving information, and giving information--there are a number of major differences, and some are so severe as to cast serious doubt on the comparability of the studies. For example, our superintendents were involved with review 44% of the time, whereas Mintzberg's superintendent spent only 11% of his time in this activity. Other discrepancies can be found by inspecting the Table.

These inconsistencies can be explained by a variety of reasons, including those identified in the immediately previous section of this report. However, our recent experience with two large observational studies leads us to believe that differences in management style account for much of the variability in these statistics. The next chapter presents separate results for each of the six superintendents and examines the individual similarities and differences that appear among them.

CHAPTER 6

INDIVIDUAL RESULTS

This chapter shifts the focus from the general nature of the job to each of the individual school superintendents who participated in the study and addresses the question "Are there major differences in the way each superintendent carries out his job?" In addition, a way to systematically characterize differences in the pattern and nature of a superintendent's interpersonal contacts is explored.

Similarities And Differences

Composite data may be valuable in cases where subjects exhibit similar behavior; however, since the school superintendents in our study frequently exhibited differences in the way in which they carried out their job, we are suspicious that relying solely on composite statistics in the analysis of observational data is misleading. While we agree with Mintzberg (1973) that managerial work must focus on similarities, we also concur with Stewart's (1976) position that the study of differences is essential to fully understand the nature of the job and the factors that impact it. In either case, observational data must be considered on a subject-by-subject basis for appropriate comparisons and contrasts. Tables 7, 8, and 9 show results for each of the six superintendents.

Where do Superintendents Work?

While the composite data in Chapter 4 showed that, as a group, the superintendents spent two-thirds of their time in their office, the results in Table 7 show that this varies by individual from a low of 51.4% for Superintendent 5 to a high of 77.6% for Superintendent 6. The percent frequency of activities carried out in his own office also shows a spread, from a low of 63.5% for Superintendent 5 to a high of 82% for Superintendent 3.

The superintendents spent little time in either their immediate subordinate's office or the offices of other subordinates, which suggests that for all superintendents in the sample, the subordinates came to the superintendent. There are differences across the superintendents in the percent of time spent in other areas of the school system and outside of the school grounds, even though the variability in the percent frequencies of these two categories is fairly small. Superintendent 5 spent 19.6% of his time in other areas of the school grounds while, Superintendent 3 spent only 3.1% of his time in that location category. Time spent away from the school grounds varied from 5.8% for Superintendent 5 to 14% for Superintendent 3.

How do Superintendents Spend Their Time?

Individual differences are also evident in the results presented in Table 8, which shows how superintendents spend their time among the work activities. For example, the percent of time spent on desk work varied from 16.4% (Superintendent 6) to 40.7 (Superintendent 3); time in scheduled meetings ranged from 8.6% (Superintendent 4) to 18.5% (Superintendent 1); and unscheduled meetings varied from 21% (Superintendent 1) to 46.5% (Superintendent 6). Similarly, the superintendents differed in the amount of time spent in interpersonal contacts--telephone calls, scheduled meetings, and unscheduled meetings--with a low of 48% (Superintendents 3 and 5) to a high of 74% (Superintendent 6).

It is important to note the amount of time superintendents spend in interpersonal interactions. Even though there is a difference of 26 percentage points between the superintendents who were high and low in interpersonal contacts the superintendent who were low still spent almost half 48% of their time in interaction with others.

Whom do Superintendents Interact With?

In general the superintendents spend a very small percentage of their time with their superiors (Board members). However, in this study this varied from a low of 1% for Superintendent 2 to a high of 10% for Superintendent 6. The results in Table 9 also show that superintendents spend more time with their peers (5%-15%) than they did with Board members and that the majority of their contact time is spent with subordinates. Individual differences are apparent even in the time spent in contact with subordinates. For example, Superintendent 2 spent only 2% of his time with immediate subordinates, compared to Superintendent 6 who spent 44% of his time in contact with immediate subordinates. Superintendent 1 spent 24% of his contact time with teachers, while Superintendent 4 spent only 3% of his time with teachers.

Differences are also apparent in the amount of contact time superintendents spent with those outside the school organization. Superintendent 4 spent 5% of his contact time with outsiders, while Superintendent 2 spent 45% of his contact time with outsiders. These results plus the variability of the percent of frequency clearly illustrate the differences in the way school superintendents behaved in the interpersonal contact portion of their job.

Who Initiates These Contacts?

The pattern of who initiated interpersonal contacts (Table 10), where the frequency of initiation is the most relevant statistic, indicates that the other party tended to be the most common initiator of the interpersonal contacts. Again, however, there was a difference in this pattern across the superintendents, with the range of other-initiated contacts being from 41% for Superintendent 2 to 59% for Superintendent 4.

As the results in Table 11 indicate, the majority of a school superintendent's contacts were one-to-one as opposed to group contacts. All of our superintendents fit this pattern, and there was a difference of only 17.5% between the superintendent (3) with the highest percentage of one-to-one contacts (91.7%) and the superintendent (6) with the lowest percentage of one-to-one contacts 74.2%. The total time in contact between one-to-one and group also showed variance among the superintendents. For example, Superintendent 2 spent 71.3% of his contact time in one-to-one situations, while Superintendent 6 spent only 50.8% of his contact time in one-to-one situations.

What are the Purposes of Superintendents' Contacts?

Table 12 presents the percent of frequency and time of the purposes of each school superintendent's contacts. The percent of frequency and the percent of time ranges for each purpose category are shown at the bottom of the table. Individual differences are again apparent but not to the degree that they were in the results of Tables 9, 10, 11. In Table 9, for example, there were differences between superintendents of 25-40 percentage points. While there are differences between superintendents in the six purposes that account for most of the contacts--i.e. action requests, manager requests, receiving information, giving information, review and discussion, and unknown--these differences only range about 10-15%.

Summary

Previous managerial work studies, with the exception of Stewart (1976) have tended to concentrate on similarities and have reported only composite data. While the composite data results from this study are generally similar to results of other studies (Chapter 5), the individual differences among our subjects are striking. These individual differences are all the more interesting considering that: 1) all the subjects in the study were performing similar jobs (i.e., Superintendent of Schools); 2) all the subjects have similar educational backgrounds (M.S. or Ph.D. in Education); 3) all have many years of experience in education (23-41); 4) all have been in the role of the school superintendents for a significant period of time (5-20 years).

The superintendents who participated in this study were similar to each other in that they spent the majority of their time in personal contacts with others. They also showed great differences among themselves in terms of whom they chose to interact with and how much time they spent with different categories of others. The next section takes a systematic look at the pattern and nature of these interpersonal contacts.

The Nature of a School Superintendents' Interpersonal Contacts

The individual results presented above indicated that different superintendents spent from 48-74% of their time in interpersonal contacts. This is consistent with the findings of managerial work studies (Feilders 1979; Kurke and Aldrich, 1979; Mintzberg, 1973; Pitner, 1978). A large body of leadership research that has also concentrated on the nature of such contacts between leaders and followers or leaders and peers. Sayles (1979), for example, indicated that interpersonal contacts in and of themselves are critical for the leader/manager. He suggested that people in organizations demand interpersonal contacts and that "Information gets relayed best, attitudes assessed, and problems negotiated in face-to-face confrontations" (p. 18).

A review of the literature indicated that the nature of interpersonal contacts has been viewed in two rather distinct ways: previous studies have usually focused on either the pattern of interpersonal contacts or the content of the contacts. The pioneering work by Richardson and White (1964) illustrates the emphasis on contact patterns: they focused on frequency of contacts and did not address content at all; in fact, they argued that it is the contact itself that is important, not its content. This is in sharp contrast to the major leadership models, which are typically constructed in terms of content, such as structuring, consideration-giving, directing, supporting, participating, or achieveing, behavior on the part of the leader. To resolve differences in these two approaches, the nature of interpersonal contacts should be approached holistically through an inclusive conceptual framework that will interrelate all relevant contact characteristics.

A Framework for the Study of Interpersonal Contacts

A leader can be characterized by an interpersonal contact style, based on the nature of the leader's contacts. The characteristics of the leader's contact style can be conceptualized as dimensions in an n-dimensional space. In the observational field study approach, the dimensions are derived from observable characteristics (e.g., location, initiator, or purpose of the contact). Each contact characteristic, regardless of type or kind, can be represented by a score or a value on a dimension. The point in the n-dimensional space, or more accurately the coordinates of the point, comprises a contact profile, representing the leader's interpersonal contact style.

Of course, the use of an n-dimensional space approach is not new to the leadership field (Salancik, Calder, Rowland, Leblebici, & Conway, 1975) or to systems work, upon which our project was partially based (e.g., Howland, 1963). But, as far as we know, this conceptualization has not been utilized to describe leaders' interpersonal contact behavior. With this framework, it is our intent to show that descriptive observational studies can provide information about both the contact pattern of the leader and the content of these contacts.

Our conceptualization of the Interpersonal Contact Style Profile is represented in Exhibit 7. Three major elements define a leader's contact profile: 1) pattern, which includes those characteristics that describe how, where, and with whom contact occur; 2) content, which incorporates into the model the topic and meaning of the contact, and 3) interaction, which represents the relationships between pattern characteristics and content characteristics. Preliminary work with our data suggests that the interaction of the main effects (pattern and content) can be a very important element in a leader's contact profile.

The specific characteristics listed below each major element in Exhibit 7 illustrate observationally measurable interpersonal contact dimensions. The lists are not exhaustive and could just as well include perceptual constructs. For example, in much of the previous leadership work, these dimensions have been constructs measured by assessment of perceptions and attitudes (e.g., initiating structure, satisfaction). However, in this chapter we will demonstrate the value of the contact profile concept by focusing on observation-based dimensions. What follows is an example of how contact profiles could begin to be generated for the school superintendents who participated in our study.

Pattern Variables

Tables in this Chapter and Chapter 4 presented the percentages of frequency and time of interpersonal contacts for such pattern characteristics as: the number of people involved (size), who participated in the contact (participants), who initiated the contact (initiator), and where the contact occurred (location).

Content Variables

A second set of variables that can be used to describe a leader's contact profile concerns the content (e.g., purpose) of the interpersonal contact. As indicated in this Chapter, there are such large individual differences across the school superintendents, in terms of both the percentage of frequency and time for the 12 contact categories that it is difficult to generalize about the results.

Interaction Variables

An illustrative two-way cross-classification of pattern and content variables, which depicts the interaction of these variables for each superintendent is presented in Table 13 for contact size by contact purpose.[2] The values show that contacts between the superintendent and one other person are much more common and generally take up more time than those between the superintendent and two or more others for all the purposes. Of course, there are notable exceptions, such as Superintendent 5's lack of paired contacts in strategy and negotiation. Another exception is Superintendent 3's and 4's very small time proportion of secondary work done in one-to-one sessions.

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[2] In order to simplify the complex interaction table, some purposes with low frequencies and natural relations to each other were combined and the other/unknown category was deleted. Thus, secondary work is comprised of nonmanagerial work, ceremony, scheduling, and sature request; in addition, strategy and negotiation--both decision making activities--are combined. Percentages are somewhat misleading for the secondary work and the strategy and negotiation purposes, since they occur relatively infrequently.

The two-way interaction between contact purpose and initiator was also analyzed for each superintendent an is presented in Table 14. Except for review and to a lesser extent strategy and negotiation and secondary work, initiation by clock/mutual is quite rare. Manager requests and giving information were, as would be expected, largely initiated by the superintendent, while action requests and receiving information were mostly initiated by others. Review, secondary work, and strategy and negotiation are more evenly split between self-and-other initiated contacts. Despite these general trends, there are some striking individual differences among the superintendents. For example, Superintendent 1 initiated 50% of the review contacts while Superintendent 6 initiated only 15% of such contacts. Superintendent 5 spent only 13% of his contact time receiving information contact time in contacts that he initiated while Superintendent 6's comparable figure was 49%.

Finally, the three-way interaction among contact purpose, size, and initiator was analyzed for each superintendent and is presented in Table 15. The action request, manager request, and receiving information purposes followed an expected pattern. For example, the vast majority of action requests were initiated by others, whether in one-to-one or in group contacts, for all superintendents. The review and strategy and negotiation purpose categories had the most complexity, with all three forms of initiation and both sizes of the contact generally accounting for a sizable proportion of both frequency and time. This may be due to the fact that review like strategy and negotiation, is a complex contact activity. Review, unlike strategy and negotiation, however, was fairly frequent and absorbed a sizable proportion of contact time.

Contact Profiles: A Contrast

To this point we have introduced the Interpersonal Contact Style Profile concept and compared our six superintendents over a set of observation-based interpersonal contact style characteristics. The elements in this set were selected because they were readily apparent--e.g., location--or because they had been used in previous work--e.g., purpose of contact categories from Mintzberg (1973). With this preliminary set we found a great amount of dissimilarity and complexity in how superintendents carried out their interpersonal contacts.

As stated earlier, our purpose was to demonstrate how Interpersonal Contact Style Profiles could be developed. By way of illustration, Exhibit 8 presents contact profile for two superintendents with contrasting contact styles who lead similar-sized school districts. For purposes of discussion, the measures of the characteristics are reported on only nominal or ordinal scales--e.g., paired-group, lowest-highest, and little-average-considerable.

The partial profiles in Exhibit 8 suggest that Superintendent 1 is internally oriented, keeping in touch with both his subordinates and with his board members. Superintendent 2, on the other hand, was more externally oriented, spending the highest percentage of time with non-school people and spending the lowest percent of time with subordinates and board members. Both superintendents preferred paired contacts. Superintendent 1 had the highest incidence of receiving information while, Superintendent 2 had the lowest.

Interestingly, the characteristics that emerge from the partial profiles are consistent with our clinical appraisal of the two superintendents. Superintendent 1's office was in the school complex, while Superintendent 2's office was located in the downtown area of the community making it difficult for subordinates to have frequent contacts with the superintendent. Superintendent 2 was also experiencing some turmoil with his board and tended to minimize contacts with board members.

Summary

In this section the conceptualization of the contact style profile was presented and the data from the school superintendents were used to illustrate how the profile could be operationalized. The analyses further support the results on individual differences and the differences that abound in the way school superintendents carry out their work. We are only beginning to explore an area that appears to offer potential for understanding the nature of a manager's job. As work progresses with more comprehensive frameworks like the contact style profile, not only will individual differences between managers be able to be operationally measured, but also these differences will be related to contextual variables and individual behavior characteristics. The next chapter begins to look at some of the contextual variables that may have an influence on the behavior of school superintendents.

CHAPTER 7

CONTEXTUAL FACTORS

Recent management literature (e.g., Glisson & Martin, 1980) has focused attention on environmental and structural characteristics of organizations. Our project attempted to study some of these contextual factors. In the proposal phase of the project, experts familiar with school organizations suggested three contextual variables that might have an impact on the top level administrator's job: organization size, geographic location, and ethnic composition of the student body. Consequently an attempt was made to systematically incorporate these factors into the composition of the sample (see Exhibit 2).

However, in selecting our sample it became obvious that the size, geographic location, and student ethnic composition variables were confounded. For example, large schools tend to be found only in urban or suburban areas, not in rural settings. Consequently, rural location and small size tend to go together, as do urban location and large size. The ethnic composition of the students also was related to geographic location; the majority of non-white students tended to be in urban areas, and the white student population tended to be in the suburban and rural areas. Because of the attention that organizational size has received in the literature, it was chosen as the relevant contextual factor to examine in this study.

Organizational Size

The size of the school organization could be determined based on a number of factors--student enrollment, budget, or number of personnel. As Exhibit 2 shows, no matter which of these factors is used, the schools in our study would be ranked in the same order. For purposes of analysis according to organizational size, we have chosen to group districts 1 and 2 as very small units, 3 and 4 as small, 5 as a medium unit, and 6 as a large one. As the results in Table 16 show, both time spent on desk work and frequency of phone calls declined as the size of the organization increased. Scheduled contacts did not show this pattern, but unscheduled contacts increased with organizational size in terms of both frequency and time spent. The frequency of tours increased slightly with size, while travel and "Other" activities did not have any noticeable trends.

Table 9 presented the percent of contact frequency and percent of contact time between school superintendents and superiors, peers, subordinates, etc. While there are many individual differences highlighted in Table 9, a few apparent relationships between size of organization[3] and the types of participants in contacts can be seen. For example, there is a tendency for superintendents of larger units to spend more time with their immediate administrative subordinates and with other administrative subordinates--probably because the smaller units had fewer administrative subordinates.

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[3] The size of the school districts is ordered from smallests to largests with Superintendent 1 having the smallest district and Superintendent 6 the largests district.

The purpose of contact by organization size results are presented in Table 17. They show much less variability than the activity categories. Manager requests tend to decline with size in terms of both frequency and time while review tends to increase with size only in terms of frequency.

Time of Year

An additional variable that was examined in the study was variation in superintendents' activities across observation periods--fall, winter, and spring. Table 18 presents composite results for time of the year differences and similarities. Time spent on desk work increased during the winter period, and time spent on scheduled meetings decreased. Time spent on travel appears to be greatest in the fall, then declined in the winter and spring. Tours also declined in the winter and spring. However, the tours in the fall may be overstated, due to observer effects; the superintendents had a tendency to "show off" school facilities at the start of the observation. The remaining categories (telephone calls, unscheduled meetings, and other) showed little variation over the academic year.

The individual results, presented in Table 19, again highlight the differences among the superintendents. For example, time spent on desk work during the winter increased from the fall for Superintendents 1, 2, and 4 but remained constant for Superintendents 3, 5, and 6. While time spent in scheduled meetings declined in the winter from the fall for Superintendents 1 and 5, it increased for Superintendents 4 and 6. Thus, both composite and individual analyses confirm that the nature of the school superintendent's job changes as the academic year progresses, although individuals exhibit different patterns. Time of year may significantly affect managerial activity and should be considered in future research. This may be important in jobs that have regularly recurring cycles, such as the academic year in the case of school superintendents.

Summary

The results from the preliminary analysis of contextual factors must be interpreted with caution for at least two reasons. First, only two or three of the six managerial work characteristics--activity and purpose of contact--were examined. A more detailed analysis of all work characteristics is needed before conclusions can be drawn. Second, the variation due to organizational size has not been compared to the amount of variation within categories due to individual differences because there is only one superintendent for the large and medium size districts.

CHAPTER 8

DISCUSSION AND CONCLUSIONS

The final chapter of this report begins with a re-examination of selected Mintzberg propositions about the characteristics of managerial work. The results of the School Superintendent Study are compared with Mintzberg's conclusions about managerial work, and similarities and differences are highlighted. Next general conclusions and implications of the School Superintendents Study are presented, and the chapter concludes with the introduction of Managerial Ecology, a new orientation to the study of managerial work.

Selected Mintzberg Propositions About Managerial Work

Mintzberg (1973) elaborated on thirteen propositions about the characteristics of managerial work. The following section compares the managerial nature of the school superintendent's job to eight of Mintzberg's thirteen propositions. We chose to focus on only eight of the thirteen because, as Kurke and Aldrich (1979) noted these eight propositions "represent the heart of his (Mintzberg's) study" (p. 6). These eight were based on observational data, while the propositions we chose to exclude pertain primarily to analysis of mail and other written material.

Proposition 1 - Quantity and Pace of Managerial Work.

Mintzberg proposed that the quantity of work to be done, or that the manager chooses to do, during the day is substantial and the pace is unrelenting. The school superintendents averaged approximately ten events per hour, or 80 events in an eight-hour day. From an overall viewpoint, our data confirm this proposition; however, using only composite means in describing the quantity and pace of work ignores variability among and within individuals. A cursory analysis of a measure of the work pace (frequency of events per hour) along with clinical analyses of our observations suggests that there were considerable differences among the school superintendents as to the amount of work each preferred. In addition, each superintendent's work load varied by observation period (fall, winter, and spring), by day and even within a single day (data not shown).

Although there were times of high work demand on the superintendent's time, there were also numerous low work demand periods--the superintendent's work was characterized by lumpiness. During periods of low demand most superintendents tended to perform postponable or unrequired work, such as reading professional journals, disposing of promotional mail, or going on tours of the school grounds.

Mintzberg also noted that after normal work hours chief executives cannot escape from an environment that recognizes the power and status of their position. Nor can the executive's own mind, which has been trained to search continually for new job-related information, be still. Conclusions from direct observation of evening activities and participants' self-reports substantiate part of Mintzberg's statement. All of our superintendents attended evening civic meetings, local political functions, and other community events in addition to the numerous evening school-related events. It was not unusual for the superintendent to pass on information obtained at these functions to others in the school organization.

Proposition 2 - Patterns of Activity

Mintzberg contended that a manager's job is characterized by brevity, variety, and fragmentation. He noted that a large majority of managerial activities are very brief, even for chief executives. The school superintendents in our study experienced even briefer activity periods than those reported by Mintzberg and others, as shown in Table 20. The school superintendents are similar to the police executives (Bussom et al., 1981) and show lower mean durations than the Mintzberg (1973) and the Kurke and Aldrich (1979) studies. At first glance these data support Mintzberg's belief that managers continually move from item to item in a variety of episodes.

However, the brevity of activity tends to vary considerably among individual school superintendents. Although the mean duration for all activities for the composite group was 6.1 minutes, there was considerable variability among superintendents ranging from 4.7 minutes for Superintendent 4 to 9.9 minutes for Superintendent 5. In addition, the mean duration variations among superintendents in each activity category were also great; deskwork ranged from 4.5 minutes to 8.5 minutes; telephone calls ranged from 2.4 minutes to 5.2 minutes; scheduled meetings varied from 17.3 minutes to 59.5 minutes; unscheduled meetings ranged from 4.4 to 8.6 minutes; tours varied from 5.5 to 20.4 minutes. This suggests that proposition 2 may be too broadly stated.

The nature of variety and fragmentation must be clarified. We consider these to be independent characteristics of managerial work. Variety is the number of unique events or episodes experienced by a manager; fragmentation is the degree to which episodes are broken apart (interrupted). Four extreme cases will be used to illustrate the differences in these characteristics. In Case 1 the manager's day is full of many unique episodes that are frequently interrupted before they are completed. Case 2 also has many unique events, but no interruptions. Each episode is finished before the next one begins. Case 3 has only a few events, but they continually interrupt each other such that none are completed. Case 4 has few events, but each is completed serially before the next is begun. The Table below summarizes the degrees of variety and fragmentation for each of the four cases.

	Case			
	1	2	3	4
Variety	High	High	Low	Low
Fragmentation	High	Low	High	Low

Proposition 2 suggests that Case 1 is the usual situation for managers. We are skeptical of this conclusion and hope to investigate this issue in detail in subsequent work. The present coded form of our data, designating activity type, purpose of contact, etc. for an event, does not allow analysis of variety, since variety is related to the specific problem, issue, or topic. However, we were able to perform a preliminary investigation of fragmentation. The data coding procedure (see Appendix A) provided for identifying continuations of interrupted events. Our original definition required that an event had to be returned to within thirty minutes of interruption for it to be coded as a continued event. The school superintendents as a group completed 92.6% of their activities without interruption. Only the remaining 7.4% of their activities were continued after an interruption. With respect to what Proposition 2 implies, this result is an unexpectedly low amount of fragmentation and suggests that the school superintendents may be in a Case 2 or Case 4 situation.

In summary, our data on school superintendents suggest that Proposition 2 does not hold for all managerial activities all of the time; further, individual superintendents are described by the Proposition to different degrees. Our clinical appraisal of the superintendents identified at least three factors that may affect the brevity, variety, and amount of fragmentation of managers' episodes: personal preference and style, organizational structure and staffing, and office design.

The superintendent's personal preference and style seemed to have the largest impact on the pattern of his work. For example, some superintendents in the study maintained an open door policy, while others cloistered themselves in their offices and placed a secretary near the entrance to directly control access to their office. Most representative of this latter group was Superintendent 5 who had the longest overall mean duration (9.9 minutes), the longest mean durations for desk work (8.5 minutes) and the second lowest percent of continued activities (5.9%).

The structure and personnel of the superintendent's immediate staff also had an effect on the superintendent's work variety and fragmentation. Those superintendents who were heavily involved with school operations as well as overall management of the unit seemed to scurry from activity to activity more than those who played a more limited role in the day-to-day operations. This is in part a function of the number of staff the superintendent has in his unit. For example, one superintendent who did not have staff members other than building principals was directly involved each morning in bus scheduling activities, while superintendents with additional staff were able to delegate this daily operational activity.

The physical design of the administrative areas in the schools may significantly affect who has access to the superintendent, the media utilized to contact the superintendent (personal contact, telephone, or written communication), and the office climate (formal-informal, open-restricted, etc.). In some sites we observed, the school building was relatively new, and the top administrative offices were in the school and arranged in a suite that seemed to encourage openness and informality.

Other superintendents were situated in older facilities where the superintendent's office was set apart from the main flow of activity or was located in a separate building.

It seems the superintendent can manipulate these factors to different degrees to change his work pattern. He can, for example, encourage or discourage visitors to his office; he can even make modifications in the office layout to facilitate or restrict interpersonal contact. Therefore the superintendent can control the Proposition 2 syndrome to a great extent. If he suffers too much from it, he has no one to blame but himself.

Proposition 5 - The Use of Different Media

Mintzberg found that managers used five different media--mail, telephone, scheduled meetings, unscheduled meetings, and tours. He pointed out that managers are strongly attracted to the verbal media--telephone and scheduled and unscheduled meetings--with verbal contacts accounting for up to 75% of a manager's time. As noted earlier, the interpersonal contacts of our school superintendents accounted for 53% of their time and 55% of their total activities. Also, individual superintendents varied considerably in the percent of time spent in interpersonal contacts ranging from a low of 48% to a high of 74%. Thus while our study tends to support the proposition, it also underscores the significant impact that individual differences have on the generalizability of the proposition.

Proposition 8 - Scheduled Meetings

The results of the School Superintendent Study do not support Mintzberg's contention that scheduled meetings take more of a manager's time than any other activity. The superintendents, as a group, spent the most time on deskwork (31%). Unscheduled meetings consumed 30% of their time and scheduled meetings only 13% of their time. The percent of time spent in scheduled meetings varied by individual, but Superintendent 1, who spent the largest amount of time (19%) in scheduled meetings, did not approach the 75% reported by Mintzberg for his superintendent.

Mintzberg also proposed that scheduled meetings allowed for contacts of long duration, involving large numbers of people. Factors affecting duration of the superintendents' meetings were highlighted in the discussion of Proposition 2 and will not be repeated here. In terms of the number of people involved in contacts approximately % of our superintendents' scheduled meetings were attended by five or more other people.

Proposition 9 - Tours

Mintzberg found that managers spent little time on tours. Our school superintendent data confirmed this; they averaged only 4.6% of their time on tours, and with the exception of superintendent 5 who spent almost 11% of his time on tours, there was little variation.

Proposition 10 - External Contacts

Mintzberg proposed that top level managers serve as a connecting link between their organization and outsiders. Our school superintendents as a group spent 21% of their contact time dealing with outsiders compared to Mintzberg's 50%. Moreover the superintendents varied in the amount of time they spent with outsiders; Superintendent 2 spent 45% of his contact time with outsiders, while Superintendent 4 spent only 15% of his contact time with outsiders. Superintendent 2 had a major building project underway during the observation period and had considerable contact with the construction foreman, subcontractors, etc. He was out-going by nature and sought out interaction with others. Superintendent 4, in contrast, was preparing to retire. He had his staff, including his replacement, handle a major portion of the contacts with outsiders. These large differences between individuals once again highlights the danger of only using composite results.

Proposition 11 - Subordinates

Managers in Mintzberg's study spent between one-third to one-half of their contact time with subordinates. Our school superintendents spent 59% of their time with subordinates. Inspection of the individual data (Table 9) reveals what appears to be an inverse relationship between time spent with subordinates and time spent with outsiders. Superintendent 2 spent the most time with outsiders and the least time with subordinates, while Superintendent 4, who spent the least time with outsiders, spent more time with subordinates than any superintendent except Superintendent 6. The very large size of his unit, with the corresponding increase in staff size, may account for Superintendent 6 being an exception.

Time spent with subordinates versus outsiders can describe the individual manager's internal-external orientation. Superintendent 2, as mentioned earlier in this report, was involved in a building program and spent his time interacting with various outsiders connected with the construction project. Superintendent 4 was near retirement, had delegated many of his responsibilities concerning interaction with outsiders to his assistant superintendent, and tended to focus on the internal functioning of the unit. The other superintendents spent, on the average, about 20-25% of their time with outsiders.

Proposition 12 - Superiors

Mintzberg found that managers spent relatively little time (about 10%) with their superiors. This result was confirmed by our superintendents who, as a group, spent only 3.9% of their time with superiors.

Summary

Eight of Mintzberg's propositions about managerial work have been compared with the results of the School Superintendent Study. While the composite data generally confirm the propositions, more detailed analysis using individual data brought to light some major differences. These differences are:

1. The Superintendents had neither a substantial work load nor faced an unrelenting work pace consistently. Their job is characterized more by its variability in quantity and pace.
2. Brevity, variety and fragmentation was not found to be a general characteristic of the job but was found to be related to other factors, e.g., individual differences of superintendents.
3. School superintendents did not demonstrate the overwhelming preference for verbal media that other managers did.
4. The superintendents did not spend the majority of their time in scheduled meetings; their time was more equally distributed between desk work and unscheduled meetings.
5. The superintendents spent less time dealing with outsiders; however, this varied greatly from superintendent to superintendent.

Conclusions and Implications

The overall purpose of this project was to systematically study the nature of the school superintendent's work. This report has described our efforts to fulfill this purpose and the results available to date. While much was learned about what a school superintendent does, more questions and issues were raised than resolved. This section reviews the findings presented in the report, identifies areas of future research, and introduces a new alternative orientation to managerial research.

Major Findings

1. Considered as a group, the superintendents spent approximately one-third of their time each on desk work and unscheduled meetings. Interpersonal contacts--telephone calls, scheduled meetings, and unscheduled meetings--absorbed 53% of their time. They spent a majority of their contact time with subordinates. The superintendents initiated interpersonal contacts less than one-half of the time.
2. The number and magnitude of individual differences among superintendents were remarkable. This is a recurring theme throughout the report. Sole reliance on measures of central tendency of grouped data to construct a composite description of managerial behavior is misleading. Individual differences and similarities must be carefully studied before valid descriptions can be made.
3. A preliminary analysis of the influence of contextual factors on superintendents' activities showed some effect. For example, as organization size increased, unscheduled

meetings increased. There were also some differences in the patterns of activities according to the time of the year. Time spent on desk work increased during the winter period, while scheduled meetings declined slightly. Unscheduled meetings increased slightly in the spring, and travel was greatest in the fall. It is important to note that this report has focused only on the "main" effects of contextual variables. There may be significant interactions and/or covariability present that would affect interpretation of the results.

4. Compared with three managerial work studies conducted by others the superintendents spent substantially less time in scheduled meetings and somewhat more time in unscheduled meetings.
5. While the data confirmed some of Mintzberg's (1973) propositions about managerial work, others were contradicted. The more important differences were summarized at the end of the previous section.
6. A superintendent's interpersonal contact behavior can be described by an Interpersonal Contact Style Profile that includes dimension categories for pattern variables, content variables, and interactions between pattern and content variables.
7. A number of methodological problems arose in the project and some advances in collecting, coding, and analyzing _in situ_ observational data were made. The more important methodological results are noted below.
   - A. Subject acquisition for observational field studies is difficult. A great deal of time, effort, money, and preparation is required for this process.
   - B. Data analysis was the biggest obstacle and must become part of the process from the beginning of the project. A _Data Coding Manual_, operationalizing a modified version of Mintzberg's classification system for managerial work, was developed after numerous problems arose in implementing the original procedure. There is much to be done in this area.
   - C. Overall, the effect on the observed by the observer was quite minimal, especially after the first few days of observation. However, the magnitude of the effect varied among the individual superintendents.

While we are particularly excited about the potential of the contact style framework concept (see Chapter 6) to further our understanding of management and leadership, we also recognize that some aspects of the framework need additional development. The pattern variables list can, of course, be expanded, but we feel that it is relatively complete compared to the content variable section. Even the existing purpose categorization could be refined--for example, while it is useful to know that the superintendent met for the purpose of receiving information, it would be helpful to be able to further classify the nature of the information. Did the information pertain to a current or potential problem? Was the information a rumor, or was the subordinate passing on information about a trivial personal event? Was the information directly related to the superintendent's job, or was it only indirectly related to his work? Other possible content categorizations schemes could be added to the content variable set, including management functions such as finance, personnel, and public relations (Stewart, 1967); management duties such as supervision, internal control, and technical work (Hemphill, 1960); and types of problems or issues (Pondy & Huff, 1980).

Impact of a Superintendent's Contact Profile on Others

The initial analysis of pattern and content variables and the interaction between these two sets of variables shows relatively high variability among the school superintendents in the study. A natural question is, do these differences affect the behavior of people in the school superintendent's sphere of operation, and if so, does this result in differences in efficiency, effectiveness, morale, etc. of the school system? For example, some contact profiles show superintendents who spend a large proportion of their time away from their office with people who are not part of their units, while the contact profiles of other superintendents reveal that they spend the majority of their time in their own office with their subordinates. Does this external/internal allocation of contact time have an effect on the perceptions of the superintendents' subordinates, their effectiveness, or their efficiency?

Impact of Contextual and Leadership Style Variables on the Contact Profile

The question of what effect the superintendent's contact style profile has on others was raised above. An equally important question is what factors impact on the contact profile? At least two classes of variables have potential to influence a superintendent's contact profile. The first class of variables is the contextual or macro factors, such as organizational size and structure, type of supraorganizational structure, and other environmental variables.

The second class of variables is the overall leadership style of the superintendent. The school superintendents had observably different styles of working and communicating, and because of this we are inclined to support the establishment view that leadership style is still a viable concept.

Stability of the contact style profile over time is a related concern. Is the contact profile relatively constant over time or is it highly variable? If either contextual variables or leadership style have a large impact on the contact profile, then the stability of the contact profile may depend on the stability of these other factors.

Managerial Ecology: A New Orientation

Our intense work with school superintendents and police chief executives (Bussom et al., 1981) has evolved into a unique approach to the study of management and managerial work that fits none of the eleven approaches recently identified by Koontz (1980). We have selected the term "Managerial Ecology" to describe what has resulted. Paraphasing Barker (1963), we define Managerial Ecology as the identification and description of natural managerial behaviors or events, in their relevant contexts or environments, followed by the incorporation of these into a unified system of concepts. Thus, ecological study of management differs from other approaches in a number of ways.

Because of concurrent developments in fields outside management and the interdisciplinary nature of Managerial Ecology, it is difficult to identify all who have contributed. However, we can credit the works of Ashby (1956), Barker (1963, 1968), Howland (1963), Howland, et al. (1970), Mintzberg (1973), Sackett (1978), and Williems and Raush 1969) as having a direct impact. Although some of these elements of Managerial Ecology were identified earlier in Chapters 2 and 3, the major ones are described briefly below.

An Ecological Systems Orientation

Managerial Ecology is based on systems concepts of holism, synthesis, and interdependence among system components. The approach especially focuses on relationships between the manager and the environment and the effects between them. As much as possible Managerial Ecology considers the manager in entirety rather than analyzing just a few characteristics or variables at a time.

Naturalistic Emphasis

Direct observation of managers in natural, real-life job situations is fundamental to Managerial Ecology. A detailed argument was made in Chapter 2 to support the direct observational method in circumstances such as those required to implement the Managerial Ecology orientation. As Schoggen (1978) noted, ecologists feel that more would probably be known about human behavior if the subject could not "respond to interviews, fill out questionnaires, or do many experimental tasks" (p. 88). The approach attempts to confront complex behavior and describe what occurs. Barker (1963) stated well what follows from this orientation:

> This has to be accomplished on the frontier of knowledge where guidance by pre-established facts and hypothesis is necessarily minimal, and where investigation must follow the canons of discovery rather than those of scientific verification. The problem is to unriddle both facts and theories. On the frontier, a pluralistic, open-minded, empirical, prototheoretical approach is the only one possible (p. 10).

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Stream of Behavior

The ecological perspective focuses on naturally occurring behavioral units as opposed to behavioral tesserae. There is as strong a concern about the temporal aspects of the occurence of these units as there is with identification of the units themselves--ime is a major variable in Managerial Ecology. As presented in the camera analogy in Chapter 2, Managerial Ecology is interested in the dynamics of managerial activity as well as the interaction between the manager and the environment. This can only be understood by study of a record of the stream of behavior, not by snapshot segments of time.

Taxonomy

Our survey of the literature shows that development of managerial behavior and activity taxonomies has been neglected. Beyond the classical functional taxonomies--e.g., planning, organizing, and controlling--there are no universally accepted classification schemes for managerial work. Few have been proposed, and little work has been done with those that have. Mintzberg's (1973) categories of work activities and interpersonal contact purposes are perhaps the most well known of the modern efforts. However, after Mintzberg initially proposed these categories, little beyond our own work has been done to verify, validate, or improve his initial lists. Managerial Ecologists will seek to develops taxonomies for managerial behavior and for environments and factors in the environments in which this behavior occurs. Only after these taxonomies are developed can attempts be made to explain the behaviors and investigate the behavior-environment interaction.

Managerial Ecology involves a reconceptualization of management and managerial work as well as a method to investigate the phenomena. Also, the manager and the environment in which managerial work takes place can not be separated. In the School Superintendent Study we have only begun to work with the ecological approach. We believe some progress has been made but much remains to be accomplished.

In line with the approach espoused above, our long-term research plan revolves around basic ecological issues and will be mainly concerned with expanding the profile concept to encompass the entirety of managerial activity and behavior, instead of just interpersonal contacts. We anticipate that managerial style profiles will be developed and refined that will eventually permit more complete descriptions of an individual manager's behavior. We hope then to investigate, through the profile, the effects of management style on the managerial environment and the effects of the environment on the manager. While we acknowledge that there are formidable obstacles to be overcome, we are confident that Managerial Ecology concepts and methods have given us a strong foundation from which to proceed.

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EXHIBIT 1

Hypothetical Sample of Narrative Data

8:13 A.M. The assistant superintendent enters the superintendent's office and tells the superintendent about a troublesome teacher who is upsetting the mathematics department faculty again. The superintendent says he'll take this matter up with the high school principal this afternoon. The superintendent then tells the assistant superintendent about a time change for a meeting and about an upcoming visit from staff at the state gifted student program on Friday.

8:21 A.M. The superintendent places a call to the high school principal and tells the principal about the meeting time change. The superintendent also asks the principal to meet with him after the meeting to discuss the situation with the teacher in the mathematics department. The superintendent says they must "lay it on the line" with the teacher now.

8:26 A.M. The superintendent is off the phone. He places an intercom call to his secretary to ask her to place a call for him to a person in the State Department of Education.

8:27 A.M. The superintendent is off the intercom and immediately asks the assistant superintendent to get together all documents relating to the problem teacher in the math department.

8:29 A.M. The assistant superintendent leaves. The superintendent takes an a call from the person in the State Department of Education. They will set up a meeting for the following week.

8:30 A.M. The superintendent is off the phone.

EXHIBIT 2

Sample Characteristics

Unit	Number of Students Enrolled[1]	Size of Budget[2]	Number of Personnel	Location	Ethnic Composition
1	1048+	1.8	90	Rural	100% white
2	1575+	2.4	91	Rural	100% white
3	2750-	5.0	220	Rural	96% white
4	2845-	6.0	244	Rural	90% white
5	5265-	12.2	676	Surburban	99% white
6	21000-	44.0	2021	Urban	3% white

---

[1] Enrollment trend indicated by: + for increasing, - for decreasing.

[2] Budget presented in millions of dollars.

EXHIBIT 3

The Mintzberg Classification System*

Managerial Activities

1. Desk work - Those periods when the manager worked alone, or with his secretaries, in the confines of his office writing letters, reading, processing mail, and scheduling activities.
2. Telephone calls - This category includes both in-coming and outgoing calls.
3. Scheduled meetings - Those appointments that were on the day's appointment calendar at the beginning of the work day.
4. Unscheduled meetings - Those contacts that are hastily arranged or where someone just "drops in".
5. Tours - Those "promenades" taken by the manager to observe activities and/or to deliver information.

Purpose of Contacts

1. Nonmangerial Work - Activities that are not directly connected with the requirements of the manager's job. Example: serving as a paid consultant to another organization.
2. Scheduling - Brief informal contacts for purposes of scheduling time.
3. Ceremony - Routine duties of a legal or social nature. Examples: presenting an award, speaking to a group of visitors, visiting an employee who is in the hospital, or attending a retirement dinner.
4. Status Requests - Inconsequential requests of the manager that are related to the manager's status position. Invitations to attend functions, to join a board, to contact someone, to see that a certain person gets some special attention.
5. Action Requests - These requests for some action on the part of the manager fall into four categories:
   A. Requests for authorization - approval of a new program, an exception to a policy, etc.
   B. Requests for information - specifically, current information to which the manager had access, such as: special plans, policies, costs, and personal opinions.
   C. Requests to initiate something - "Would you bring this up at the next staff meeting?," etc.
   D. Requests that attempt to influence - attempts to influence the manager with regard to pending or unresolved decisions, such as promotion or replacement of staff, etc.
6. Manager Requests - Contacts where the manager makes requests of others. These fall into three categories:
   A. Asking the subordinate for information. "Do you know anything about such and such?"
   B. A request of others to take action on an issue or idea. Delegation of a task.
   C. Manager follow-up requests. "Would you follow-up on this for me?"

EXHIBIT 3 (continued)

7. Observational Tours - Situations where a manager leaves his office to greet someone in the hall or to see something of interest.
8. Receiving Information - Information that managers receive from others fall into three categories:
   A. Instant communication - very current information rushed to the manager by telephone or unscheduled meeting while it is still "hot". Most of this type of information takes the form of rumors, hearsay and opinion.
   B. Briefings - Presentation, usually at scheduled meetings, that update the manager on projects, situations, etc.
   C. Interviewing - The manager obtains information by interviewing others, by attending conferences, etc.
9. Giving Information - Contacts where the manager gives information to others.
   These sessions can be categorized as follows:
   A. Instant communications given by the manager (see 8A).
   B. Information on plans and policies.
   C. Advice to others.
   D. Other - Miscellaneous comments about personal experiences, etc.
10. Review - Contacts characterized by discussion of a wide range of issues and by a clear two-way process of information flow. Six types of review seem to recur:
    A. Deputy reviews - with close subordinates to discuss current and important issues and to find out "what's going on."
    B. Functional review - usually with a larger number of people at scheduled meetings. The purpose is to review one functional area of the organization's operations.
    C. Contact review - usually occurs in a social milieu, a chance meeting, where information is traded.
    D. New-man reviews - meeting with new, high ranking subordinates to clear up questions on procedures, etc.
    E. Post-meeting reviews - manager reviews with a subordinate the events of a meeting that both attended.
    F. Organizational board meetings - structured meetings that usually begin with reports, then move to old business, new business, etc.
11. Strategy - Contacts dealing with important organizational decisions, such as staffing, budgeting, new directions, etc.
12. Negotiations - Attempts to reach agreements between two organizations.

*Adapted from Mintzberg (1973).

EXHIBIT 4

Chronology/Contact Record

Starting Time	Duration (Minutes)	Activity Category	Purpose	Number of Others	Title of Others	Initiator	Location
8:13	8	Unscheduled Contact	Review (& Discussion)	1	Assistant Superintendent	Other	Superintendent's Office
8:21	5	Telephone Call	Giving Information	1	Principal	Self	Superintendent's Office
8:26	1	Desk Work	Giving Information				Superintendent's Office
8:27	2	Unscheduled Contact	Manager Request	1	Assistant Superintendent	Self	Superintendent's Office
8:29	1	Telephone Call	Scheduling	1	Outsider	Other	Superintendent's Office

EXHIBIT 5

EVENT CHARACTERISTIC CATEGORIES

Starting Time

Hours and minutes on the 24-hour clock

Duration

Elapsed time in minutes

Activity

Desk Work
Telephone call
Scheduled contact
Unscheduled contact
Tour
Travel
Interaction with observer
Personal time

Location

Superintendent's office
Subordinate's office (proximal to superintendent's office)
Other areas of the School system
Other administrative subordinates offices
Other locations outside of school system

Purpose of Contact

Nonmanagerial work
Ceremony
Scheduling
Stature request (of subject)
Action request (of subject)
Manager request (by subject)
Receiving information
Giving information
Review (& discussion)
Strategy
Negotiation
Other or Unknown

Titles of Participants

School Board members
Peers
Principals
Teachers
Students
Immediate subordinates
Assistant Principals
Custodial, kitchen workers
Parents
Outsiders

Form of Initiation

Clock
Subject
Opposite party
Mutual

EXHIBIT 6

The Data Collection and Coding Process

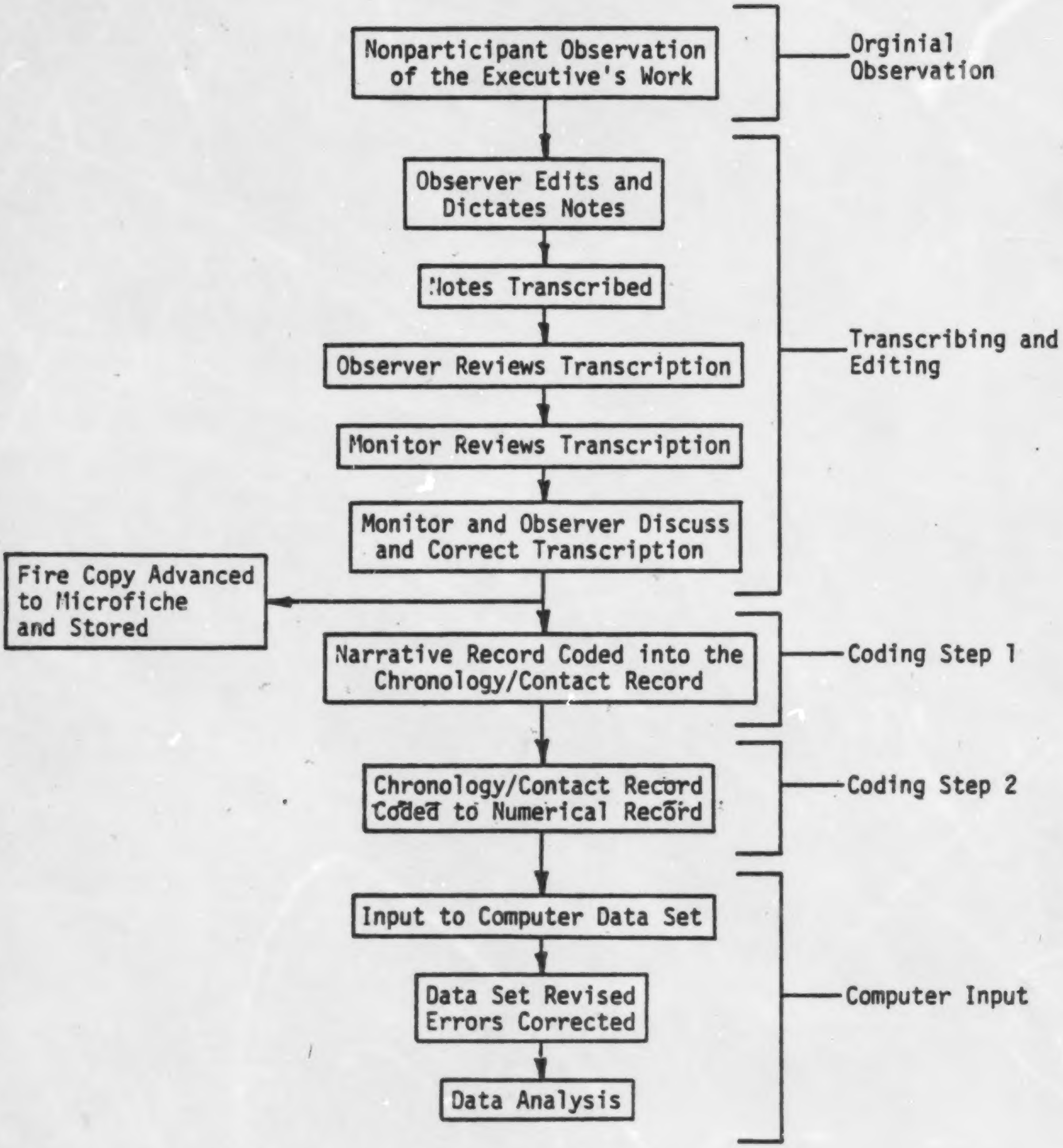
Nonparticipant Observation of the Executive's Work
Orginial Observation
Observer Edits and Dictates Notes
Notes Transcribed
Observer Reviews Transcription
Transcribing and Editing
Monitor Reviews Transcription
Monitor and Observer Discuss and Correct Transcription
Fire Copy Advanced to Microfiche and Stored
Narrative Record Coded into the Chronology/Contact Record
Coding Step 1
Chronology/Contact Record Coded to Numerical Record
Coding Step 2
Input to Computer Data Set
Data Set Revised Errors Corrected
Computer Input
Data Analysis

EXHIBIT 7

A Descriptive Framework of a Leader's Interpersonal Contacts

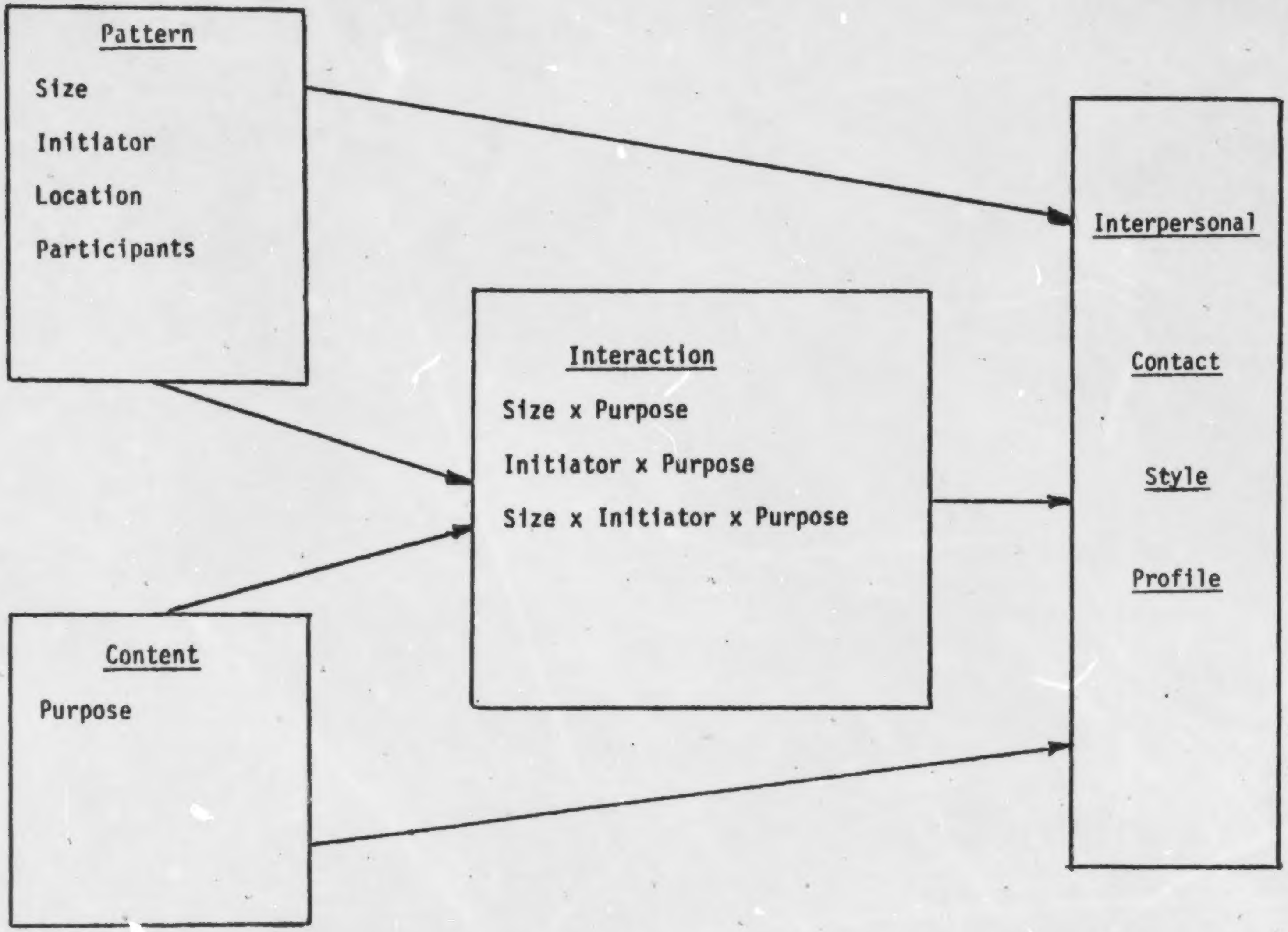
Pattern
Size
Initiator
Location
Participants
Interaction
Size x Purpose
Initiator x Purpose
Size x Initiator x Purpose
Content
Purpose
Interpersonal
Contact
Style
Profile

EXHIBIT 8

Contact Profile Examples

Dimension	Superintendent 1	Superintendent 2
Pattern:		
Percent paired contacts	high	high
Percent time with subordinates	considerable	lowest
Percent time with outsiders	average	highest
Percent time with board members	highest	lowest
Initiation of contacts	balanced	balanced
Percent of contacts away from school	average	highest
Percent of time spent in office	average	average
Content:		
Ceremonies	none	none
Scheduling	average	high
Action requests	average	high
Manager requests	high	high
Receiving information	highest	lowest
Review (& discussion)	lowest	average
Interaction:		
Purpose by Size		
Action requests	paired	paired
Receiving information	highest paired	lowest paired
Percent of time giving information	paired	paired
Purpose by Initiator		
Action requests	other-initiated	other-initiated
Percent of time giving information	self-initiated	self-initiated
Review (& discussion)	self-initiated	balanced
Purpose by Initiator by Size		
Review (& discussion) in paired contacts	self initiated	balanced
Review (& discussion) in group contacts	balanced	self initiated

TABLE 1

Location of School Superintendents' Activities

Location	Mean Percent Time Spent[1]	Mean Duration of Activity (Minutes)
Superintendent's office	66.4	5.3
Immediate subordinate's office (proximal to the superintendent's office)	0.9	3.1
Other administrative subordinate's office	1.3	6.9
Other areas in the school system	11.0	9.4
Outside of school grounds	8.8	39.9

---

[1] This column will not total 100% because time spent on personal business and interacting with the observer was not coded to a specific location. The majority of these non-work related activities did occur in the superintendent's office.

TABLE 2

School Superintendents' Work Activities

Activity	Mean Percent of Time	Mean Duration (Minutes)	Mean Percent of Activities
Desk work	30.9	6.2	30.6
Telephone calls	10.7	3.2	20.6
Scheduled meetings	12.8	40.5	1.9
Unscheduled meetings	29.7	5.5	32.8
Tours	4.6	10.8	2.6
Travel	5.7	10.3	3.4
Other*	5.8	4.3	8.0

---

*Includes personal time and observer interactions.

TABLE 3

Whom School Superintendents had Contact with[1]

Person's Title	Mean Percent of Time with[2]	Mean Duration (Minutes)	Mean Percent of Contacts with[3]
School Board Members	3.9	9.8	2.1
Other Superintendents (Peers)	13.0	16.0	4.2
Immediate Subordinates	22.0	4.3	26.6
Principals	12.9	4.6	14.5
Assistant Principals	3.9	5.5	3.7
Teachers	8.7	5.6	8.0
Custodians, Bus Drivers, Kitchen Workers	11.3	3.3	17.8
Students	0.5	5.0	0.6
Parents	1.5	4.9	1.6
Outsiders	21.4	5.8	19.1
Unknown	0.9	2.4	2.0

---

[1] Includes telephone calls, scheduled meetings, and unscheduled meetings.

[2] As a percent of time spent in interpersonal contact.

[3] As a percent of all interpersonal contacts.

TABLE 4

Purposes of School Superintendents' Contacts

Purpose	Mean Percent of Time[1]	Mean Duration (Minutes)	Mean Percent of Contacts[2]
Nonmanagerial	2.6	15.9	1.0
Ceremony	0.4	9.9	0.3
Scheduling	0.8	2.1	2.3
Status requests	1.5	7.4	1.2
Action requests	5.4	3.1	10.3
Manager requests	6.2	2.8	12.9
Receiving information	13.8	4.8	16.7
Giving information	7.7	3.7	12.2
Review	44.3	7.4	35.2
Strategy	8.5	19.8	2.5
Negotiation	1.7	20.5	0.5
Other/unknown	6.8	8.4	4.8

---

[1] Based on total contact time.

[2] Based on total number of contacts.

TABLE 5

A Comparison of School Superintendents' Activities and Contacts

	Study			
	Bussom/Larson/Vicars	Pitner	Kurke/Aldrich	Mintzberg
	Weeks of Observation/Number of Subjects			
	18/6	3/3	1/1	1/1
Activity				
Desk Work				
Percent of time[1]	31	20	22	16
Mean duration (minutes)	6	12	19	12
Percent of activities	31	30	32	32
Telephone Calls				
Percent of time	11	8	3	6
Mean duration (minutes)	3	4	4	5
Percent of activities	21	36	23	26
Scheduled Meetings				
Percent of time	13	51	69	75
Mean duration (minutes)	41	70	79	60
Percent of activites	2	13	24	29
Unscheduled Meetings				
Percent of time	30	10	5	3
Mean duration (minutes)	6	11	3	6
Percent of activities	33	18	20	0
Tours				
Percent of time	5	2	0	1
Mean duration (minutes)	11	12	7	6
Percent of activities	3	3	2	2
Contacts				
With Directors				
Percent of contact time	4	19	28	17
Percent of contacts	2	8	12	11
With Subordinates				
Percent of contact time	59	54	40	61
Percent of contacts	71	73	59	65
With Others				
Percent of contact time	37	27	32	22
Percent of contacts	27	19	29	24

---

[1] All percents are mean values.

TABLE 6

A Comparison of Purpose of Contacts for School Superintendents

	Study			
	Bussom/Larson/Vicars	Pitner	Kurke/Aldrich	Mintzberg
	Weeks of Observation/Number of Subjects			
	18/6 Mean Percent of Time/Mean Percent of Contacts	3/3 Mean Percent of Time/Mean Percent of Contacts	1/1 Mean Percent of Time/Mean Percent of Contacts	1/1 Mean Percent of Time/Mean Percent of Contacts
Purpose				
Nonmanagerial	3/1	*/*	*/*	*/*
Ceremony	*/*	13/3	*/*	25/10[1]
Scheduling	*/2	2/11	1/5	11/1
Status requests	2/1	5/5	*/3	1/4
Action requests	5/10	2/7	3/15	16/20
Manager requests	6/13	5/14	2/7	2/10
Receiving information	14/17	6/12	15/24	7/11
Giving information	8/12	12/13	5/12	9/13
Review	44/35	23/21	61/26	11/8
Strategy	9/3	26/7	5/1	22/10
Negotiation	2/*	9/3	4/3	5/3

---

[1] Mintzberg observed the superintendent at the end of the school year, and the data include a number of year-end dinners.

*Denotes less than 1.0 percent.

TABLE 7

Location of School Superintendent Activities by Individual Superintendent

Superintendent	Superintendent's office	Immediate Subordinate's office	Other Administrative Subordinate office	Other areas of the School System	Outside of School grounds
1	78.7* 66.1	0.5 0.3	1.8 0.8	9.3 13.2	1.0 10.1
2	74.1 66.8	0.2 0.1	0.5 0.3	5.2 6.1	2.6 9.1
3	82.0 72.3	2.0 0.8	1.3 1.2	2.1 3.1	1.9 14.0
4	80.1 68.7	2.1 1.1	0.2 0.8	8.0 12.5	0.7 7.2
5	63.5 51.4	2.0 0.8	3.7 4.1	9.3 19.6	2.0 5.8
6	79.1 77.6	4.2 2.4	0.5 0.2	9.2 8.7	0.3 6.0

---

* The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

TABLE 8

School Superintendent Work Activities by Individual Superintendent

Superintendent	Desk Work	Telephone Calls	Scheduled Meetings	Unscheduled Meetings	Tours	Travel	Other
1	33.2* 36.8	26.6 11.0	1.8 18.5	27.9 21.0	1.7 3.2	3.1 6.1	5.6 3.4
2	31.9 31.2	22.6 16.1	2.7 9.3	24.3 23.5	1.2 2.3	5.1 8.9	12.2 8.7
3	33.0 40.7	22.9 9.5	2.2 11.8	30.0 26.7	1.2 2.7	2.0 2.9	8.7 5.7
4	31.2 32.8	18.7 10.6	0.6 8.6	37.8 35.4	2.8 3.2	3.5 6.0	5.4 3.4
5	26.7 23.1	13.4 7.1	2.6 12.4	32.8 28.6	5.1 10.6	4.8 8.1	14.4 10.0
6	24.0 16.4	15.5 11.9	2.8 15.6	46.1 46.5	4.8 4.4	1.7 1.6	5.1 3.6

---

*The upper value in each cell represents the percent of frequency in each categroy. The lower value represents the percent of time in each category.

TABLE 9

Percent of Contact Frequency and Contact Time of School Superintendent Contacts with Superiors, Peers, Subordinates, Outsiders, and Unknown by Individual Superintendent*

Contacts with

School Superintendent	Superiors	Peers	Subordinates**							Outsiders	Unknown	Total Contacts	Total Minutes of Observed Contact Time
			A	B	C	D	E	F	G				
1	3***	3	10	14	2	18	34	1	1	19	4	620	3,249
	10	14	24	24	4	24	18	****	1	25	7		
2	1	5	2	16	1	10	25	1	4	39	2	417	2,083
	1	9	2	17	1	10	17	4	3	45	2		
3	1	6	36	21	3	9	7	1	3	19	1	498	2,842
	2	15	27	22	4	13	4	****	5	19	****		
4	2	5	47	17	2	2	15	0	1	13	2	776	3,521
	7	14	43	15	3	3	15	0	****	15	2		
5	3	5	37	24	11	13	5	1	1	14	2	314	3,051
	7	10	36	28	13	21	4	1	1	16	****		
6	6	****	40	7	17	6	21	1	1	19	2	415	3,115
	10	5	44	8	13	9	20	1	1	25	1		

---

* These percentages may not equal 100% because they include multiple contacts, i.e., a meeting which includes superiors, peers, and subordinates. We will treat each as a separate contact, where total contacts do not reflect multiple contacts.

** Subordinates broken down into seven categories:

A = Immediate administrative subordinates
B = Principals
C = Other administrative subordinates
D = Teachers
E = Other subordinates
F = Students
G = Parents

*** The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

**** Less than 1%

TABLE 10

Percent of Contact Frequency and Contact Time of School Superintendent Contacts for Initiator of the Contact by Individual Superintendent

School Superintendent	Contact Initiated by					Total Contacts	Total Minutes of Observed Contact Time
	Superintendent	Other Party	Mutual	Clock	Unknown		
1	43*	46	10	0	0	620	3,249
	37	42	20	0	0		
2	45	41	13	1	0	417	2,083
	42	35	18	5	0		
3	40	50	10	**	0	498	2,842
	39	37	21	3	0		
4	33	59	7	**	**	776	3,521
	43	44	8	2	2		
5	32	47	21	0	0	314	3,051
	33	46	22	0	0		
6	25	52	22	**	0	415	3,115
	27	45	28	**	0		

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* The upper value in each cell represents the percent of frequency in each contact category. The lower value represents the percent of time in each category.

** Less than 1%

TABLE 11

Percent of Contact Frequency and Contact Time of Paired (One-to-One) and Group Contacts by Individual Superintendent

School Superintendent	Frequency of paired contacts as a % of total contacts	Time spent in paired contacts as a % of total contact time	Frequency of group contacts as a % of total contacts	Time Spent in group contacts as a % of total contact time	Total number of observed contacts	Total minutes of observed contact time
1	87.58	53.92	12.42	46.08	620	3,249
2	83.69	71.29	16.31	28.71	417	2,083
3	91.77	60.77	8.23	39.23	498	2,842
4	89.82	68.84	10.18	31.16	776	3,521
5	79.30	61.72	20.70	38.28	314	3,051
6	74.22	50.75	25.78	49.25	415	3,115

TABLE 12

Percent of Contact Frequency and Contact Time of School Superintendent Contacts According to the Purpose of the Contact by Individual Superi[illegible]ndent

Purpose of Contact

School Superintendent	Non M'grl. work	Ceremony	Scheduling	Stature request (of subject)	Action request (of subject)	Manager request (by subject)	Receiving info.	Giving info.	Review (& discussion)	Strategy	Negotiation	Other or unknown	Total contacts	Total minutes of observed contact time
1	0.8* 1.6	0.0 0.0	2.6 0.9	0.7 0.6	8.4 5.4	15.8 7.3	23.1 9.3	16.3 7.3	20.7 42.2	13.0 22.2	0.5 0.8	9.7 14.1	620	3,249
2	3.1 2.9	0.0 0.0	4.1 2.5	6.5 11.5	11.3 8.2	16.6 9.3	5.3 8.4	10.6 7.3	35.5 38.1	11.7 9.0	0.2 0.8	4.8 4.6	417	2,083
3	0.6 4.0	0.2 2.4	1.6 0.6	0.0 0.0	9.8 4.4	7.6 3.4	21.9 17.1	17.1 11.8	33.1 41.5	23.4 15.3	0.0 0.0	4.4 6.7	498	2,842
4	0.5 5.2	0.8 0.2	0.8 0.1	0.4 0.2	12.6 4.6	17.1 10.0	17.4 18.6	6.2 5.0	41.2 51.0	22.1 10.6	0.0 0.0	0.8 0.6	776	3,521
5	1.3 1.6	0.3 0.2	4.8 1.3	0.3 0.1	6.7 4.0	6.7 3.8	18.8 16.4	9.6 6.0	39.5 45.6	16.9 23.2	0.3 1.3	7.6 8.1	314	3,051
6	0.0 0.0	0.0 0.0	2.2 0.3	0.5 0.2	11.3 6.9	8.2 3.8	10.1 11.1	14.9 9.6	44.6 44.6	13.0 19.7	2.4 7.3	3.4 6.7	415	3,115
Percent of frequency range	0.0-3.1	0.0-0.8	0.8-4.8	0.0-6.5	6.7-12.6	6.7-17.1	5.3-23.1	6.2-17.1	20.7-44.6	11.7-23.4	0.0-2.4	0.8-9.7		
Percent of time range	0.0-5.2	0.0-2.4	0.1-2.5	0.0-11.5	4.0-8.2	3.4-10.0	8.4-18.6	5.0-11.8	38.1-51.0	9.0-23.2	0.0-7.3	0.6-14.1		

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* The upper value in each cell represents the percent of frequency in each purpose category. The lower value represents the percent of time in each category.

TABLE 13

Percent of Contact Frequency and Contact Time for Size of Contact by Purpose of Contact by Individual Superintendent

	Purpose of Contact						
School superintendent	Secondary work	Action request (of superintendent)	Manager request (by superintendent)	Receiving info.	Giving info.	Review (& discussion)	Strategy & Negotiation
1	100*	92	90	95	91	76	54
	100	88	91	95	92	28	13
2	93	96	90	77	84	81	60
	79	95	94	33	89	70	32
3	67	96	100	96	96	89	90
	9	96	100	53	55	64	85
4	75	98	93	92	94	86	88
	5	98	85	48	60	76	93
5	84	95	90	85	87	82	7
	64	98	82	46	67	83	2
6	100	91	94	81	69	71	20
	100	71	95	44	50	61	6

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* The cell entries are for paired (one-to-one) contacts; corresponding percents for group contacts can be calculated by subtracting the appropriate cell value from 100. The upper value in each cell is the percent of contact frequency; the bottom value is the percent of contact time.

TABLE 14

Percent of Contact Frequency and Contact Time for Initiator of the Contact by Purpose of Contact by Individual Superintendent

School Superintendent	Purpose of Contact and Initiator of the Contact																				
	Secondary work			Action request (of supt.)			Manager request (by supt.)			Receiving Information			Giving Information			Review (& discussion)			Strategy and Negotiation		
	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual
1	57*	43	0	4	92	4	84	16	0	17	83	0	66	33	1	50	36	14	23	77	0
	83	17	0	13	85	2	80	20	0	23	77	0	66	33	1	34	48	18	59	41	0
2	57	23	20	4	87	9	87	9	4	23	77	0	66	25	9	44	38	18	30	50	20
	44	23	33	2	93	5	85	9	6	68	32	0	59	36	5	49	32	19	10	28	62
3	42	42	16	6	94	0	84	16	0	19	80	1	69	31	0	43	38	19	17	44	39
	6	59	35	8	92	0	69	31	0	35	46	19	79	21	0	38	27	35	13	67	20
4	38	62	0	1	97	2	83	17	0	6	91	2	71	23	6	29	57	14	29	59	12
	95	5	0	1	96	3	83	17	0	41	46	13	55	15	30	36	50	14	14	75	11
5	50	45	5	19	81	0	80	10	10	14	86	0	70	23	7	24	40	36	43	21	36
	30	45	25	22	78	0	80	13	7	13	87	0	51	46	3	27	44	29	76	18	6
6	22	67	11	4	87	9	88	9	3	7	79	14	48	34	18	15	52	33	40	30	30
	22	78	0	17	79	4	94	4	2	49	46	5	37	56	7	15	49	36	39	9	52

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* The upper value in each cell is the percent of contact frequency; the bottom value is percent of contact time.

TABLE 15

Percent of Contact Frequency and Contact Time for Size of Contact by Initiator of the Contact and Purpose of Contact by Individual Superintendent

Purpose of Contact and Initiator of the Contact

School Superintendent	Size of contact	Secondary work			Action request (of supt.)			Manager request (by supt.)			Receiving Information			Giving Information			Review(& discussion)			Strategy and Negotiation		
		Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual	Self	Other	Clock/ Mutual
1	Paired	57* 83	43 17	0 0	4 15	92 82	4 3	82 78	18 22	0 0	18 24	82 76	0 0	64 64	36 36	0 0	51 46	35 36	14 18	92 37	71 63	0 0
	Group	0 0	0 0	0 0	0 0	100 100	0 0	100 100	0 0	0 0	14 6	86 94	0 0	89 84	0 0	11 16	48 30	39 53	13 17	17 62	83 38	0 0
2	Paired	60 56	25 29	14 15	4 3	89 93	7 4	87 86	10 10	3 4	6 9	94 91	0 0	65 57	24 38	11 5	43 44	43 43	14 13	17 14	83 86	0 0
	Group	0 0	0 0	100 100	0 0	50 75	50 25	86 67	0 0	14 33	80 97	20 .3	0 0	71 81	29 19	0 0	50 60	14 6	36 34	50 8	0 0	50 92
3	Paired	63 69	7 31	0 0	6 8	94 92	0 0	84 69	16 31	0 0	19 19	81 81	0 0	68 62	32 38	0 0	42 41	42 39	16 20	18 15	41 61	41 24
	Group	0 0	50 97	50 33	0 0	100 100	0 0	0 0	0 0	0 0	25 53	50 7	25 40	100 100	0 0	0 0	50 31	6 8	44 61	0 0	100 100	0 0
4	Paired	25 20	75 80	0 0	0 0	98 97	2 3	83 85	17 15	0 0	4 5	94 94	2 1	73 73	22 24	5 3	27 26	62 60	11 14	33 15	60 77	7 8
	Group	75 99	25 1	0 0	50 67	50 33	0 0	78 74	22 26	0 0	27 74	64 3	9 23	33 28	33 1	33 71	44 67	26 16	30 17	0 0	50 55	50 45
5	Paired	53 37	47 63	0 0	20 22	80 78	0 0	78 76	11 16	11 8	12 23	88 77	0 0	77 74	23 26	0 0	28 33	44 46	28 21	0 0	100 100	0 0
	Group	34 18	33 12	33 70	0 0	100 100	0 0	100 100	0 0	0 0	22 5	78 95	0 0	25 5	25 85	50 10	4 2	23 31	73 67	46 78	15 16	39 6
6	Paried	22 22	67 78	11 0	21 2	89 93	9 5	88 94	9 4	3 2	3 2	82 87	15 11	47 47	37 47	16 6	12 10	59 62	29 28	25 23	50 59	25 18
	Group	0 0	0 0	0 0	25 53	75 47	0 0	100 100	0 0	0 0	25 83	63 13	12 1	53 28	26 64	21 8	20 22	35 31	45 47	40 44	25 6	31 54

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* The upper value in each cell is the percent of contact frequency; the bottom value is the percent of contact time.

TABLE 16

Percent of Frequency and Percent of Time of School Superintendents' Work Activities According to Unit Size

Work Activities	Very Small n=2	Small n=2	Medium n=1	Large n=1
Desk work	32.7* 23.6	31.9 36.5	26.7 23.1	24.0 16.4
Phone	24.9 13.0	20.4 10.1	13.4 7.1	15.5 11.9
Scheduled contact	2.2 14.8	1.2 10.2	2.6 12.4	2.8 15.6
Unscheduled contact	26.3 22.0	34.7 31.2	32.8 28.6	46.1 46.5
Tours	1.5 2.8	2.2 3.0	5.1 10.6	4.3 4.4
Travel	4.0 7.2	2.9 4.5	4.8 8.1	1.7 1.6
Other	8.5 5.5	6.8 4.4	14.5 10.0	5.1 3.7

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* The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

TABLE 17

The Percent of Frequency and the Percent of Time of Purpose of Contact Categories Based on Total Contact Time According to Unit Size

Purpose of Contact	Very Small n=2	Small n=2	Medium n=1	Large n=1
Nonmanagerial Work	1.7* 2.1	0.6 4.7	1.3 1.6	0.0 0.0
Ceremony	0.0 0.0	0.6 1.2	0.3 0.2	0.0 0.0
Scheduling	3.2 1.5	1.1 0.3	4.8 1.3	2.2 0.3
Stature Request (of subject)	3.0 4.9	0.2 0.1	0.3 0.1	0.5 0.2
Action Request (of subject)	9.6 6.5	11.5 4.5	6.7 4.0	11.3 6.9
Manager Request (by subject)	16.1 8.1	13.4 7.0	6.7 3.8	8.2 3.8
Receiving Information	15.9 8.9	19.2 17.9	18.8 16.4	10.1 11.1
Giving Information	14.0 7.3	10.4 8.1	9.6 6.0	14.9 9.6
Review (& discussion)	26.6 40.6	38.1 46.7	39.5 45.6	44.6 44.6
Strategy	1.8 8.9	2.8 6.2	4.1 11.6	2.4 9.6
Negotiation	0.4 0.8	0.0 0.0	0.3 1.3	2.4 7.3
Other or unknown	7.7 10.4	2.2 3.3	7.6 8.1	3.4 6.7

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* The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

TABLE 18

Percent of Frequency and Percent of Time
of School Superintendents' Work Activities
by Time of Year

Activity	Fall	Winter	Spring
Desk Work	29.1* 28.1	32.8 36.3	30.1 28.8
Telephone Calls	19.6 9.2	21.6 11.6	20.5 11.4
Scheduled Meetings	1.7 15.2	1.8 10.0	2.3 12.6
Unscheduled Meetings	32.4 28.6	31.7 27.9	34.4 32.6
Tours	4.1 6.0	1.6 3.2	2.0 4.3
Travel	5.4 8.3	2.7 4.9	2.0 3.5
Other	7.8 4.6	7.8 6.2	8.6 6.7

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*The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

TABLE 19

Percent of Frequency and Percent of Time of School Superintendent Work Activities by Time of Year by Individual Superintendent

	Superintendent																	
	1			2			3			4			5			6		
	Time of Year																	
Activity	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S
Desk work	30.6* 26.0	35.8 50.2	33.3 37.9	31.6 30.6	33.9 40.4	30.7 25.1	34.9 45.5	35.0 45.2	28.7 30.3	28.0 28.9	37.1 43.6	29.3 27.2	25.7 21.4	23.8 20.4	30.3 27.2	20.9 13.8	24.1 15.9	27.4 21.5
Telephone calls	23.1 8.0	29.8 15.3	27.1 10.8	21.7 15.8	26.4 17.6	20.7 15.2	22.4 10.0	22.0 8.6	24.5 9.8	17.7 4.3	21.0 7.3	17.6 9.6	14.9 11.4	12.2 8.7	13.2 9.6	15.2 11.4	12.2 8.7	19.8 17.5
Scheduled meetings	3.3 31.1	1.0 6.1	1.0 14.4	0.8 4.5	1.3 4.3	5.3 16.5	1.0 7.9	2.2 9.7	3.5 18.8	0.8 9.4	0.7 13.1	0.2 3.6	3.5 18.1	2.3 6.8	2.2 11.5	1.4 13.7	4.2 20.0	2.5 12.2
Unscheduled meetings	31.3 17.0	25.3 19.1	26.7 27.7	22.1 30.0	19.7 17.9	29.2 22.7	30.9 27.4	30.3 24.5	28.7 27.9	33.9 29.4	32.8 22.4	46.7 27.9	32.6 26.0	33.6 33.5	32.0 26.9	45.5 49.4	52.7 50.7	38.6 35.4
Tours	2.5 5.4	1.0 1.7	1.7 1.8	2.3 0.7	0.8 1.5	0.6 4.2	0.7 2.0	0.9 2.6	2.1 3.7	5.7 5.6	1.7 2.7	0.7 1.1	6.9 13.6	3.3 7.5	5.3 10.2	8.1 6.4	2.5 2.0	4.1 4.5
Travel	3.8 9.4	3.0 5.2	2.3 2.8	6.1 8.6	6.3 13.5	3.5 5.8	2.7 3.3	0.6 0.7	2.8 4.6	8.5 13.8	1.0 1.2	0.4 1.8	5.5 10.3	7.0 10.2	2.2 3.8	3.4 2.8	0.4 0.4	1.0 1.4
Other	5.5 3.3	3.9 2.4	7.9 4.6	15.6 9.8	11.7 5.0	10.0 10.6	7.5 3.9	9.0 8.7	9.8 5.0	5.5 3.5	5.8 3.2	5.1 3.5	10.9 6.3	17.8 4.3	14.5 3.4	4.9 6.3	3.8 14.3	6.6 10.0

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*The upper value in each cell represents the percent of frequency in each category. The lower value represents the percent of time in each category.

TABLE 20

A Comparison of Mean Duration of Activities
(in Minutes)

Activities[1]	School Superintendents	Police Executives Bussom et al (1981)	Chief Executives Mintzberg (1973)	Managers Kurke & Aldrich (1979)
Desk Work	6.2	6.1	15	12
Telephone Calls	3.2	3.8	6	4
Scheduled Meetings	40.5	40.2	68	65
Unscheduled Meetings	5.6	5.5	12	8
Tours	10.8	22.0	11	11
Proportion of Activities lasting less than 9 minutes	81.4	80.7	49	63
Proportion of Activities lasting longer than 60 minutes	0.6	1.2	10	5

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[1] Mintzberg and Kurke & Aldrich utilized only the five activity categories shown.

APPENDIX A

DATA CODING MANUAL

0.1* Time Studied is the time a subject spends on the job while being observed. Another way of describing it is "time at work", or the difference between starting and ending times minus lunch (unless it is a working lunch). Time Studied is calculated by summing its component activities:

Time Studied =	Tours +	
	Scheduled Meetings +	Contact Activities
Work Time (Business Activities)	Unscheduled Meetings +	
	Telephone Calls+	
	Desk Work +	
	Travel +	Noncontact Activities
	Personal +	
	Observer Interaction +	

0.2 Work Time is the time a subject spends in business activities--that is, Tours, Scheduled Meetings, Unscheduled Meetings, Telephone Calls, Desk Work, and Travel.

0.3 Self-Reported Activities are those which occur while the observer is away from the subject's area of work. For example, if the subject has a night meeting or some phone calls at home which it was impossible or inconvenient for the observer to be present at, the subject may keep track of the events and report them the next day to the observer. These events are listed and recorded in the narratives, but they are not coded or counted in the "Time Studied."

1.0 A new activity begins when a change in participants or media occurs, unless the same activity is continued following an interruption. All contact activities are counted except instantaneous "hellos" and other similar greetings. In order for a noncontact activity to count, it must be at least one minute in duration. Each activity is tagged by its starting time.

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* Note: Numbering corresponds to columns on the Chronology/Contact Sheet--see #1 attachment.

1.1 Concurrent Activities occur when two or more activities take place at the same time, such as when the subject talks on the phone while traveling in his car. In this case, only the primary activity is coded (Telephone Call rather than Travel in this example). Priorities for Concurrent Activities are as follows: 1 = Tour; 2 = Scheduled Meeting; 3 = Unscheduled Meeting; 4 = Telephone Call; 5 = Desk Work; 6 = Travel; 7 = Personal; 8 = Observer Interaction.

2.0 The Duration of an activity is the difference between the starting and ending time appearing on a digital clock (no second hand). Contact activities that occur during the time which the digital minute indicator remains unchanged have zero duration; thus, it is possible for two or more activities to begin or end at the same recorded time.

2.1 An Interruption occurs whenever an activity is interrupted by any other activity or activities and the prior activity is continued immediately following the interrupting activity or activities, provided the length of interruption is less than 30 minutes.

3.0 Activities are the eight basic categories of events. Four are contact activities (Tours, Scheduled Meetings, Unscheduled Meetings, and Telephone Calls), and the remaining four are noncontact activities.

3.1 Tours occur when the subject leaves his office to inspect or observe other parts of the organization. For Tours, the subject's office is defined as the immediate area where he, his secretaries, his staff, and his conference room are located, provided that these are contiguous with one another and on the same floor.

3.2 Scheduled Meetings refer to meetings by appointments that were made at least the day ahead. Thus, if a meeting is on the subject's calendar at the beginning of the day, it is considered to be Scheduled. Meetings which are put on the calendar the same day that they take place are coded as Unscheduled.

3.3 Unscheduled Meetings refer to nonscheduled meetings, as when someone just drops in. In order to be a contact, the subject must talk to or listen to the person. For example, if someone enters the subject's office and then leaves without any exchange of words, there is no contact.

3.4 Telephone Calls refer to incoming and outgoing telephone calls, intercom calls, and two-way radio conversations.

3.41 Outgoing Telephone Calls resulting in no answer, busy signal, wrong number, or person not being in the office all count as Desk Work.

3.42 Incoming Telephone Calls which are wrong numbers count as Desk Work; those from a secretary are also Desk Work.

3.43 Strictly personal phone calls are coded as Personal

3.44 Duration of a Telephone Call does not include a time when a subject waits on hold, which is Desk Work. Telephone Calls begin when the subject contacts the party called.

3.5 Desk Work refers to periods of time when the subject works alone or with his secretary or a specified person who is acting in a secretarial role.

3.51 Working alone includes such things as: sorting and processing mail, reading and writing reports, preparing a tape-recorded message, replying to correspondence, signing letters, and writing speeches.

3.52 Working with a secretary includes: exchanging papers, receiving and sorting mail, giving dictation, signing forms and letters, reviewing calendar, and discussions regarding phone calls and other business matters. All business interactions between the subject and his secretary will count as Desk Work. Other people who can serve in a secretarial role shall be identified separately for each observation site.

3.6 Travel occurs when the subject leaves his office (as defined in Section 3.0, Tours) to go directly to another location to conduct any other business activities. Travel can also occur between sites of business activities and on return trips to the office.

3.7 Personal is a nonbusiness activity which is included in Time Studied but not coded as to purpose.

3.71 Personal time consists of visits to the coffee machine, water fountain, or restroom. It also consists of nonbusiness related desk work, such as reading strictly personal material, writing personal letters or notes, or balancing one's personal checkbook. It also includes nonorganizational contacts of a nonbusiness nature, such as conversations with wife or family, one's personal attorney, doctor, personal friends, etc.

3.72 All contacts with organizational personnel, whether of a business nature or not, are handled as business activities.

3.8 Observer Interaction takes place when the subject and the observer talk. Concurrent explanations of ongoing activities, as when the subject explains what the forms are that he is signing, are neglected (i.e., consistent with section 1.1, this would be classified as Desk Work).

4.0 Purpose of a contact activity is determined by one of the 13 categories used by Mintzberg (see pages 249-257 in The Nature of Managerial Work), except that "External Board Work" is dropped and "Other" is added as a purpose category (see #2 attachment).

4.1 When more than one purpose can be attributed to a contact activity, the purpose, which in the coder's judgment is most important, is the only one coded.

5.0 Number of Participants of any face-to-face contact activity is the number of persons a subject comes in contact with. Whenever someone joins or leaves a contact already in progress, a new activity occurs unless the person is deemed to have arrived late or left early. The size of the group is recorded as the maximum number of people present during the contact.

6.0 Participants are classified according to their organization title: for example, principal, business manager, board member, citizen, student, mayor, parent, etc.

6.1 Participants who act in a capacity not typical of their usual role are coded according to their regular organizational position, except those predetermined at any site to have secretarial role capabilities.

7.0 Form of Initiation refers to the person who initiated any contact activity.

7.1 There are four forms of initiation:

Self is initiation of the contact activity by the subject.

Opposite is initiation of the contact activity by other parties.

Mutual is where the initiator is indeterminate.

Clock is a regularly occurring Scheduled Meeting.

7.2 For purposes of coding, previous contacts are ignored. For example, if a subject returns a Telephone Call in response to an earlier phone call initiated by the other party, the subject is now the initiator.

8.0 Location of an activity can be: the subject's office, a subordinate's office which is proximal to the subject's office, other areas of the subject's organization, or other locations. For purpose of Location, the subject's office includes only the room or area in which his desk is located.

8.1 When a subject has more than one office at different locations, both count as the "subject's office".

8.2 When an activity is split between two locations, count only the one location where the majority of time was spent. In an open office situation, where the subject may converse from his office to someone in another office without either party moving, the location of the subject should be coded.

9.0 Observer Presence or exclusion during the activity is coded. Certain activities may require exclusion of the observer.

10.0 Continued Activities (see section 2.1) are tagged by their time of prior occurrence.

Explanation of "Purposes"

Adapted from: Henry Mintzberg, *The Nature of Managerial Work*, pp. 249-257

ORGANIZATIONAL WORK	nonmanagerial work performed outside the organization (Boy Scout Committee, Club President, etc.)
CEREMONY	formal or informal ceremonial activity, ostensibly involving no decision-making or informal flow
SCHEDULING	contacts for the purpose of making time arrangements for a future contact
STATUS REQUESTS	inconsequential requests or solicitations because of the manager's status or to sell something to the organization
ACTION REQUESTS	requests by others that the manager take some action (request for information, request for authorization, request that manager initiate something, attempt to pressure manager with regard to upcoming decision)
MANAGER REQUESTS	requests that the manager makes of others (requests for information or advice, delegation of a task, following up on earlier reports)
RECEIVING INFORMATION	one-way flow of information to the manager initiated by another person (current news, hearsay, opinion, also from briefings, interviews and conferences)
GIVING INFORMATION	one-way flow of information from the manager initiated by the manager (current news, hearsay, opinion, also plans and policies, and advice)
REVIEW (discussion)	two-way flow of information between manager and others
STRATEGY	development, evaluation and/or choice of alternatives with regard to important decision-making situations
NEGOTIATION	meetings with outsiders to reach a mutual interorganizational agreement
OTHER	undiscernable; unclassifiable

NIE CODING FORMAT

Column	Form	Content	Description
1-3	xyy	Subject Number	x: 1 = School Superintendent 2 = Police Executive 3 = Coal Mine Manager yy: Unique number for each
5-10	xxyyzz	Date	xx: Month yy: Day zz: Year
11	x	Day of the Week	x: 1 = Monday . . . . 5 = Friday
12-13	xx	Observer	xx: 01 = Vicars 02 = Larson 03 = Bussom 04 = Huebschmann 05 = Ness 06 = Miller 07 = Buchtmann
14-15	xx	Coder	xx: 01 = Vicars 02 = Larson 03 = Bussom 04 = Huebschmann 05 = Ness 06 = Miller 07 = Buchtmann 08 = Baldwin 09 = Schwegman
16-17	xy	Observation	x: Week observed (period), e.g., 1 = the first week, 2 = the second week, etc. y: Day in that period, e.g., 1 = first day
18-19	xx	Total Observation	xx: The day of observation represented, e.g., 14 = 14th day of observation of this subject

NIE CODING FORMAT

Column	Form	Content	Description	
24-27	xxyy	Time Event Begins	xxyy: Hours and minutes on the 24-hour clock	
28-30	xxx	Duration	xxx: Elapsed time of an activity or event in minutes (must be calculated by coder)	
32	x	Event	x: 1 = Desk Work 2 = Telephone Call 3 = Scheduled Contact 4 = Unscheduled Contact 5 = Tour 6 = Travel 8 = Interaction with Observer 9 = Personal Time	
33-34	xy	Purpose of Contact	xy: 11 = Nonmanagerial work (organizational work) 12 = Ceremony 13 = Scheduling	Secondary Work
			21 = Stature request (of subject) 22 = Action request (of subject) 23 = Manager request (by subject)	Requests & Solicitations
			31 = Observational tour 32 = Receiving information 33 = Giving information 34 = Review (& discussion)	Informational Work
			41 = Strategy 42 = Negotiation	Decision-Making
			50 = Other or unknown	
36	x	Number of People Present (including the subject)	x: 1 = one other person 2 = two other people 3 = three other people 4 = four other people 5 = five other people 6 = more than five people	

NIE CODING FORMAT

Column	Form	Content	Description
37-47	$x_1x_2x_3x_4x_5x_6$ $x_7x_8x_9x_{10}x_{11}$	Participants	xi, i = 1, 2, 3, · · ·, 11 -- the participant categories listed below: 1. Supervisors, i.e., school board members. 2. Peers, i.e., other school superintendents and other county superintendent. 3. Immediate administrative subordinates, e.g., assistant superintendents and business managers. 4. Principals. 5. Other administrative subordinates, e.g., assistant principals. 6. Teachers. 7. Other subordinates, e.g., bus drivers, custodians, and kitchen workers. 8. Students. 9. Parents. 10. Outsiders, e.g., citizens, other city government officials, and Illinois Department of Education employees. 11. Unknown. The number of participants in each category is recorded using the code for number of people present (see col. 42).
49	x	Form of Initiation	x: 1 = Subject 2 = Opposite party 3 = Mutual 4 = Clock

NIE CODING FORMAT

Column	Form	Content	Description
50	x	Location	x: 1 = Superintendent's office 2 = Immediate subordinate's office (proximal to the superintendent's office) 3 = Other administrative subordinate's office 4 = Other areas in the school system 5 = Other locations
51	x	Observer Present	x: 0 = Observer present during all or majority of event 1 = Observer not present during any or majority of event
52-55	xxyy	Continuation Reference Time	xxyy: Hours and minutes on the 24-hour clock of the time the continued event occurred.

Note: A different card format and code will be developed to record environmental, contextual, and personal background data.

#1 Attachment to Coding Manual

Chronology/Contact Record Sheet

Column #	1	2	3	4	5	6	7	8	9	10
	Start	Duration	Activity Category	Purpose	# of Supers	Title of Partic's	Initiator	Location	Observer Presence	Continued Activities
	see 1.0-3.8			see 4.0	see 5.0	see 6.0	see 7.0	see 8.0	see 9.0	see 10.0

APPENDIX B

Publications and Collaborators

Publications:

"The impact of organization size on the nature of school superintendents work." Proceedings, 12th Annual Meeting of the American Institute for Decision Sciences, Las Vegas, NV, November 1980. Robert Bussom, Lars Larson, and William Vicars

Collaborators:

Lars Larson	Associate Professor	Co-investigator
Robert Bussom	Associate Professor	Co-investigator
William Vicars	Associate Professor	Co-investigator
Brad Baldwin	M.B.A. Student	Graduate Assistant
Larry Buchtmann	M.B.A. Student	Graduate Assistant
Phil Eddleman	M.B.A. Student	Graduate Assistant
Ray Huebschmann	Doctoral Student	Graduate Assistant
Jeff Miller	M.B.A. Student	Graduate Assistant
Doug Schwegman	M.B.A. Student	Graduate Assistant
Sharon Hamilton	Project Secretary	
Vicki Avery	Project Secretary	
Pat Francissan	Project Secretary	